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ABSTRACT

The General Subcommittee on Education of the House Committee on Education and Labor has compiled policy papers on the educational needs of the seventies in order to deepen Congressional understanding of these issues. The first section of the compendium consists of essays which have been prepared at the invitation of the Subcommittee by a distinguished group of men, considered to reflect perhaps every shade of opinion about education. They have been asked both to predict what will be the compelling issues of the seventies and beyond and to suggest potentially fruitful alternatives. The second section of the anthology is comprised of the formal statements which were submitted by witnesses when they testified at the Subcommittee hearings. The essays focus on such subjects as educational finance, school construction, research and development, educational technology, evaluation and accountability, education of culturally and ethnically diverse populations, educational planning and management, reading, school governance, the application of systems analysis techniques to education, early childhood education, aid to private schools, occupational education and training, and the selection, training, and compensation of teachers and paraprofessionals. (Authors/JW)

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NEEDS OF ELEMENTARY AND SECONDARY EDUCATION FOR THE SEVENTIES

A Compendium of Policy Papers

COMPILED BY THE
GENERAL SUBCOMMITTEE ON EDUCATION
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Compendium edited by Dr. Sharlene Pearlman Hirsch

INTRODUCTION

Legislative authorizing Committees must obtain and digest a wide diversity of opinions to enable them to properly discharge their responsibilities. For the Committee on Education and Labor this "homework" requirement has added significance for we concern ourselves with the one single tool—education—which will assure the continuation of the world's greatest representative democracy. We must provide programs which will assure continuation of education success as well as remedy failure. We must constantly strive to help provide quality education equally to all. To do this we must seek as many suggestions as possible, but exercise extreme caution in the winnowing process, for we deal with a precious group—American youth. The programs we recommend must be designed with due deference to their impact on every family group.

This compilation, together with the subsequent printed transcript of hearings, will provide a provocative background for future legislative action. We commend these papers—many of them controversial—to our colleagues in the House, where education has a high priority, as it does with a majority of the Members of the Committee on Education and Labor.

Carl D. Perkins,
Chairman, Committee on Education and Labor.

FOREWORD

What challenges do the seventies hold for elementary and secondary education in the United States? The answers to this question have significant implications for the nation in the remaining thirty years of the 20th century—and into the 21st, as well— because the pedagogical offspring of this decade's educational system will be adults of the year 2000-plus.

Realizing that its mission extends far beyond existing Federal concerns, the General Subcommittee on Education initiated a comprehensive inquiry into the educational problems and possibilties of the seventies. The Subcommittee began by conducting an initial series of hearings on this subject, and transcripts of the entire proceedings have been printed in Volumes I and II of this series. As an additional vehicle for deepening Congressional understanding of these issues, the Subcommittee has compiled a compendium of papers—Volumes III and IV—on the educational requirements of the new decade.

The first section of the compendium consists of essays which have been prepared at the invitation of the Subcommittee by a distinguished group of more than a hundred university faculty members and administrators, industrialists and businessmen, journalists, social philosophers, professional educators, educational researchers, scientists, and other prominent citizens from every part of the United States, reflecting perhaps every shade of opinion about education. They have been asked both to predict what will be the compelling issues of the seventies and beyond and to suggest potentially fruitful alternatives. The choice of specific topics, however, has been left to the individual writers.

The second section of the anthology is comprised of the formal statements which were submitted by witnesses when they testified at the Subcommittee hearings.

This collection of papers represents perhaps the most extensive survey of the educational needs of the seventies that has been attempted to date. The essays focus on such subjects as educational finance, school construction, research and development, educational technology, evaluation and accountability, education of culturally and ethnically diverse populations, educational planning and management, reading, school governance, the application of systems analysis techniques to education, early childhood education, aid to private schools, occupational education and training, and the selection, training, and compensation of teachers and paraprofessionals.

Reading these absorbing essays constitutes, we believe, a unique educational experience. Some authors have linked their discourse to specific Federal legislation or to bills pending before the Congress; others have referred more generally to broad policy goals, in the hope of summoning Members of Congress to legislative action. Many essays make recommendations related to State and Local as well as Federal policy.

Certain writers, for example, have called on the Federal government to issue vouchers to parents, on the principle that parents have a right to choose the schools their children will attend. Such an innovation could also make the educational system more competitive.

One writer predicts that vocational education will become "the major reform element in all of education." Another recommends establishment of a "careers development curriculum," in addition to the regular vocational program, which would be directed to students lacking firm occupational goals. Such a program would emphasize, among other features, the systematic exploration of a range of vocational alternatives.

Still another essay, characterizing American schooling as a "stifling atmosphere of involuntary servitude," makes a case for abolishing compulsory education.

There are suggestions for a type of "council of educational advisors," analogous to the Council of Economic Advisors, which would formulate long-range goals for the nation; for a National Institute on Early Childhood Education as part of a new organization similar to the National Institutes of Health; for "qualified" block grants requiring State accountability to the Federal government; for broadening the concept of education for women to encompass the dual roles of homemaker and breadwinner; for "humanistic" education to help students understand and cope with their feelings; for national demonstration centers of educational excellence; and for "quality assurance" in education, guaranteeing that educational programs, when properly utilized, will yield certain measurable results. There are predictions about the future impact of technology on the schools and about the utilization of television as an educational component in the home.

One author has called for a nation-wide shutdown of business for several days, to create a dialogue on America's educational problems. Another has suggested that students and teachers be represented on school boards.

As in any compilation of policy papers, the contributors to this anthology do not always agree with one another. One clergyman questions the necessity of parochial schools; another calls for Federal aid to religiously-based educational institutions. Some papers present a case for a national educational policy and a national board of standards, while others accuse the Federal government of interfering in Local educational affairs and recommend strengthening the States' individual capacities to exercise responsible leadership.

This is just a sample of the many provocative manuscripts included in this volume. Many of these recommendations are controversial, of course, and would require further deliberation and analysis, within the spectrum of competing priorities, before any definite conclusions could be drawn. Already, however, the essays have served to stimulate valuable and productive discussion about possible new directions for the emerging decade. and the Subcommittee is deeply grateful to the authors for performing this public service.

We in the Congress cannot hope to predict all of the significant events to come in the seventies, but perhaps, as one young school superintendent has written in this volume, "The important thrust of education and learning should become not what a person knows, but what he does when he does not know."

Assessing the educational needs of present and future generations will require vision, imagination, and foresight. Drawing on all of the resources at its disposal, the General Subcommittee of Education is committed to the search for wisdom and understanding as it deliberates on policies for the new decade.

ROMAN C. PUCINSKI,
Chairman, General Subcommittee on Education.

April 1970.

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Sawaia, Josephine, Chairman, National Education Association Legislative Commission, Scottsdale, Arizona 896
Schrag, Peter, Editor, Change Magazine, and Editor-at-large, Saturday Review, New York, New York 960
Shanker, Albert, President, United Federation of Teachers, New York, New York 872
Sherer, Rabbi Morris, Executive President, Agudath Israel of America, New York, New York 919
Van Denend, Herbert, National President, Citizens for Educational Freedom, Hawthorn, New Jersey 947

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PART ONE

This section is composed of policy papers which have been prepared at the request of the General Subcommittee on Education on the needs of elementary and secondary education in the seventies. Within this general framework, each author has pursued his own specific theme. The writers were asked to limit themselves to approximately 3,000 words. Because of the diversity of avenues explored in the individual essays, they have been compiled alphabetically rather than by any thematic arrangement.

EDUCATION FOR THE SEVENTIES: THE ROLE OF THE FEDERAL GOVERNMENT

Max G. Abbott, Director, Center for the Advanced Study of Educational Administration, University of Oregon, Eugene, Oreg.

That education is a crucial element in the social and economic development of America is a proposition that is no longer arguable. That the Federal government has an important role to play in the improvement of education at all levels and in all of the fifty states is by now a generally accepted maxim. Nevertheless, the nature of that role, the activities that the Federal government should support to contribute to the improvement of education, particularly at the elementary and secondary levels, continues to be a debatable issue.

The requirements of American education, today and during the coming decade, are numerous. More adequate funding; providing equal educational opportunities for all children; upgrading educational professionals; making education more relevant to the social, economic, and occupational demands of the nation; and meeting the needs of economically and socially deprived children are only a few of the more obvious challenges facing the schools of this country.

Identifying these requirements, however, adds little to an understanding of the priorities that need to be established for the decade of the seventies. Nor does such identification address itself to the question of the role of the Federal government in the improvement of elementary and secondary education. The remainder of this statement, therefore, will be directed toward these two issues.

To improve the quality of education and to adapt the educational enterprise in terms of the changing society that it serves, three major issues of paramount importance emerge: (1) the need to develop new instructional strategies and materials to meet the educational needs of individual students; (2) the need to develop new occupational roles to perform the wide variety of tasks demanded of the public schools; and (3) the need to develop more adequate organizational and administrative arrangements to facilitate the adoption of improved approaches to instruction.

Instructional strategies and materials.—Although the exact nature of the changes that will take place in the use of instructional strategies and materials is not entirely clear, it is possible to indicate the direction that effective instructional methods will take on the basis of current advances in research and development.

First, students will be emancipated from direct dependence upon a teacher in governing the course of instruction. Machines that present the stimuli for learning, provide instantaneous feedback of learning errors, and branch appropriately to present new sequences of stimuli will supplement or supplant the conventional textbook-recitation patterns of the present.

Second, teaching will be redefined as the diagnosis and treatment of learning difficulties on an individualized, clinical basis. Thus, high degrees of specialization will be developed among instructional agents along lines other than the usual age-grade or subject-matter division of responsibility.

Third, specialized curricular programs will be developed, built on concrete, relatively short-run objectives and designed for students in unique learning circumstances. Head Start, language laboratories, short courses in data processing procedures, and reading clinics are illustrative.

New occupational roles.—As technological aids are developed to supplement the teacher in presenting stimuli for learning, it will be possible to release human talents to perform other important and human tasks. As suggested above, during the decade of the seventies teaching will most likely be redefined and new occupational roles will need to be developed in the schools. These new roles will call for individuals with specialized training to perform such tasks as the diagnosis and treatment of learning difficulties, the diagnosis and treatment of personal emotional problems that interfere with learning, and the development in students of the skills required for adequate social interaction.

Some of the implications for staffing that grow out of recent developments related to instructional practices have been summarized succinctly in a report issued recently by the Research and Policy Committee of the Committee for Economic Development (CED):

> We are convinced that reconstruction of instructional staffs, instructional patterns, and school organization must lie at the heart of any meaningful effort to improve the quality of schooling in this country.
>
> The introduction of team teaching, differentiated teaching functions, and more flexible salary scales offers great opportunity to achieve better results at lower cost. Even more important is the reorganization of staffs and personnel functions so that the new advances in teaching techniques and technology can be utilized effectively. Indeed, considerable money and effort have already been wasted by the premature introduction of such innovations without first creating the conditions for integrating them effectively into school programs.
>
> The new educational technology, especially instructional television and various types of audiovisual equipment, holds considerable promise for improving the quality of instruction. No opportunities to advance education through new technology should be overlooked. However, our interest in instructional technology increases rather than lessens our concern for improving teacher education and developing better curriculum materials. For however sophisticated and useful the machine may become, it will always be an instrument employed by human educators. We see no conflict between teachers and machines, but rather the opportunity for teachers to become more effective through the use of ma-

> **chines. The substance and quality of education must always depend on the knowledge, wisdom, and ingenuity of scholars, the designers of curricula, and, most important, teachers who work directly with children and teenage students.***

Organizational and administrative arrangements.—There is considerable evidence to indicate that the American school will be unable to capitalize on the emerging instructional patterns without some fundamental structural and procedural changes. The traditional allocation of authority in the school will probably be unrealistic in view of changes in the teacher's role demanded by new instructional techniques. It is unlikely that instruction can continue to be carried on in relatively autonomous self-contained classrooms through which students are moved in narrowly graded age cohorts—a pattern that so importantly shapes the entire organizational character of the school. It is even possible that the notion of a geographically-bounded school district will be outmoded as a unit for organizing instruction, especially considering the modern communications technology that makes distance and space irrelevant parameters.

The Research and Policy Committee of CED also addressed itself to this issue, as follows:

> **We recommend continued and more extensive experimentation in school organization to eliminate the regimentation of students that results from the conventional class units and lock-step method of advancement. We believe that the combination of differentiated staffs, team teaching, and variable student grouping, together with the use of instructional television and other audiovisual media, has much promise for individualizing instruction.**

It would be possible to continue at length to speculate about the directions that these developments might take. However, to do so would be futile. Improvement will not come from armchair speculation. Significant improvement in education will only be achieved through a massive and systematic program of research, development, evaluation, and dissemination. It is this condition that leads to an enunciation of the role of the Federal government in the improvement of education.

There are many areas in which State and Local governments must continue to accept the major responsibility for the educational enterprise. These include the financing of on-going programs of instruction, the certification of personnel, and the establishment of general educational requirements. Moreover, in any program of research, development, evaluation, and dissemination, the cooperation of State and Local governments will be required. The responsibility for initiating and financing such a program, however, necessarily rests with the Federal government. This is true for a number of reasons.

First, few of the States and virtually no Local school districts have the financial resources to support research and development programs of sufficient magnitude and scope to bring about any noticeable improvement in educational practice. In fact, both State and Local governments are now facing a financial crisis as they merely attempt to maintain on-going programs.

Second, qualified personnel are not now available, nor will they be available in the foreseeable future, to staff more than a limited number of research and development units. The few such units that now exist

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Committee for Economic Development, *Innovation in Education: New Directions for the American School.

have encountered serious difficulties in finding and attracting competent and committed individuals for this important work. To proliferate these agencies could only result in the serious deterioration of the quality of the work that would be understaken.

Third, the very nature of research and development activities, plus the long period of time needed to assess adequately the quality of the materials and processes developed, requires that these activities be separated from the day-to-day process of conducting school. While it is clear that developmental activities must take into account the complexities and the limitations of the "real" situation, and although the evaluation of developed "products" must occur in the setting in which they will eventually be used, both sets of activities have different objectives and employ different processes than do continuing instructional programs.

Fourth, the duplication of efforts that would result if research and development were to be carried on even at the State level, in all of the 50 States, would represent an unconscionable waste of scarce resources. Although some duplication of effort should be tolerated, even encouraged, there is a definite limit to the number of viable alternatives that could be generated in regard to any of the substantive areas involved. The number of problems that need to be attacked and the urgent need for improvement in educational practice make such duplication of effort and the resulting waste of resources unthinkable.

For these and other reasons, research and development directed toward the improvement of education should be initiated and supported by the Federal government. To a limited extent, this has already been done. During the past two decades considerable work in curriculum improvement has been undertaken with the support of the National Science Foundation. Since 1964 a number of educational Research and Development Centers have been established at various universities, Centers that have been supported largely with Federal funds. More recently, a network of Regional Educational Laboratories has been organized to accelerate the development of improved educational products and practices, again with major financial support from the Federal government.

To date, however, even these efforts have been fragmentary and limited. Although the financial support for the R & D Centers and Regional Educational Laboratories was generally adequate at the outset, all of these agencies have encountered serious budgetary restrictions in recent years. Almost without exception, as these agencies have developed the capabilities for creative and significant work, they have been faced with a curtailment in financial support.

If the results of research and development are to be effectively evaluated and implemented, other types of agencies will need to be established and supported to supplement the existing R & D agencies. It has become very clear in the last few years that new materials and practices, regardless of their quality, will not be disseminated widely nor rapidly unless they can be demonstrated to work in settings that are reasonably similar to those in which they might be adopted. As the results of research and development efforts become available for assessment and eventual adoption, therefore, it is imperative that a series of experimental schools be established to provide a setting for evaluation and demonstration.

The number of such schools that will be needed will depend in part on the magnitude of the research and development effort and on the eventual output of that effort. In any event, however, they should be established in sufficient numbers that school personnel in all regions of the country could visit them with a reasonable expenditure of time and money.

The widespread dissemination of new materials and practices will require the establishment of still another type of agency. This agency will need to be staffed with personnel who have the knowledge, the time, and the financial resources to consult with and aid school districts where the innovations are being introduced. Eventually, such an agency will probably need to be a part of, or affiliated with, State departments of education. However, the development and establishment of such an agency represents a major innovation in itself. The responsibility for its development will almost necessarily rest with the Federal government.

The need for the improvement of education has now become so urgent that the Congress should move immediately to make such improvements a fundamental part of national policy for the decade of the seventies. This requires the establishment of a systematic plan for initiating and coordinating the important processes in change—research, development, demonstration, evaluation, and dissemination. It also requires adequate funding for an extended period of time. Too frequently in the past, money has been appropriated to establish agencies that were intended to pioneer improvements in education only to have the appropriations curtailed just at the point that the agencies were ready to make important contributions to their assigned tasks. Institution-building is a slow and expensive process. Unless institutions that are established are given time to develop and to produce, most of the money that is appropriated will be spent to build the institutions with little money contributing to the accomplishment of the purposes for which the institutions were supposedly established.

SOME ELEMENTARY AND SECONDARY EDUCATIONAL NEEDS OF THE SEVENTIES

Marvin Adelson, Vice President, Information Transfer Corp., Santa Monica, Calif.

Educating is arranging for people to learn that which remains worth learning over the period needed to make the arrangements. "Elementary and secondary education" refers to the set of institutionalized arrangements (primarily, at this point, schools) devised for the purpose of educating the young, the content of the intended learning (that which is deemed useful or otherwise good), or the process used in transmitting the content within the arrangements (primarily at this time, what teachers do). In a world of rapid change, complexity, and great diversity of values and aspirations, it is no wonder that the relevance of a school system largely predicated upon traditional assumptions of relative stability of life pattern, simplicity in principle, and a smaller range of values and aspirations is called vigorously to question. *The great challenge of the seventies, therefore, is to find* *ways of attuning the educational system to constantly changing conditions, including emerging needs and wants of people.*

The difficulty in achieving this virtuous goal is in deciding when a given practice does or does not correspond to a need or want. For many goods and services, a relatively free market process provides an operational answer to the question. But for education at elementary and secondary levels there is certainly nothing approaching a free market.

The public school system has many of the attributes of a virtual monopoly (although a somewhat uncoordinated one) and it has going for it a compulsory education law that guarantees consumption of whatever product it purveys. Students, parents, employers, taxpayers, and society as a whole are the overlapping classes of consumers. Each has a different basis for evaluating the system and different ways of making his reactions felt. The consumer is the product as well as the raw material of the system, yet he has little or no choice among the alternative suppliers, in whose hands most of the evaluation and quality control functions are left.

But there is evidence that this evaluation has not been altogether adequate. There is, in fact, a form of rebellion by students, parents, teachers, and administrators by as diverse a group of participants as could be imagined. This is not the only country in which educational ferment is rampant. And while we are reasonably well off by comparison with most of the rest of the world, that is no cause for complacency. The trouble we are in is bad enough to warrant attention at all levels.

ENCOURAGING SCHOOL IMPROVEMENT

Many schools and school districts have attempted to improve their practices.

Some have produced exemplary results. Most have been less successful. *Conscientious case studies are needed to explain the differences as a guide to future action.*

The Federal government has supported educational advance in a variety of ways: by supplying useful services, through the educational research and development centers at universities, regional educational laboratories, educational policy research centers, and educational research information clearinghouses, among others. It has also promoted racial integration and attacked some of the educational problems of poverty. Nevertheless, educational adaptation has generally been slow and halting—anything but systematic and adequate to the rate of environmental change.

In part, the slow pace of change has undoubtedly been due to the small segment of educational expenditures that goes for discretionary purposes. All but a tiny fraction of the 5 percent of the GNP that is spent for elementary and secondary education in this country pays for fixed costs. There simply cannot be much latitude in the $3 per student per day that is the typical expenditure. While research and demonstration results are available, the lessons they teach cannot be acted upon very easily under this condition, and for this reason, they tend not to be terribly deeply attended to. *One of the needs of the seventies, therefore, is a set of more effective incentives to both public and private schools and school systems, especially the less effective ones, to adapt to their own settings measures of established value. Another* *is to provide incentives for the more effective ones to innovate as they see fit.*

One way for the Federal government to promote these ends is to share the cost—possibly pay almost all of the cost—in some of the more backward schools or districts—of installing innovations of demonstrated effectiveness and making them work, as evidenced by some criteria of educational performance. A discretionary component could then be added to the budgets of schools in direct proportion to their educational achievement. Thus, the top schools would be able to originate new practices, while the bottom ones would have an incentive to adopt proven improvements. Together, these would tend to move the system forward at an accelerating rate, without necessarily usurping local initiative or implying centralized control.

DEMAND-RELATED CONSIDERATIONS

Demand for education appears to be growing at a faster rate than the supply of qualified professional teachers for elementary and high schools can be expanded. If the schools are to respond to this demand, they will have to do one or more of the following:

1. Expand use of cost-effective educational technology.
2. Increase and regularize recourse to qualified uncredentialed personnel.
3. Substantially improve pedagogy so as to reduce the time required to achieve a given result, including, if possible, the training of teachers.
4. Modify standards of performance or practice.
5. Increase utilization of educational resources through better management.
6. Relinquish more of the field of instruction to nonschool-based arrangements such as TV, correspondence courses, employers' in-plant courses, private special-purpose educational purveyors (as for languages, speed reading, computer programming).
7. Relinquish more of certain noninstructional functions, such as testing or guidance to outside agencies, or reorganize them internally to use less effort.

Combinations of these measures are of course possible, and instances are already in evidence. Let us examine the needs they imply.

1. *Expand use of cost-effective instructional technology.*—This alternative will require, besides revision of curricula for training new teachers, extensive retraining of existing teachers. At least initially, some funds for such training will likely have to come from outside most school systems if an adequate effort is to be mounted. Later, product suppliers may be able to underwrite marginal costs of training in the use of their own products.

Systematic means will be needed for evaluating the educational effectiveness of such technology in a variety of settings, as will systematic dissemination of the results of such evaluation. This will most likely best be done on a national level since the costs may be substantial and the results useful to all potential customers. Explicit criteria for evaluation will have to be developed and refined.

Changes will be required in the way school budgets are constructed and used. Among other things, more will have to go into procurement of goods and services, and less (relatively) into salaries and plant. Procurement procedures will have to be refined. Models of serviceable procedures would no doubt be useful to many schools and school districts.

2. *Increase and regularize recourse to qualified uncredentialed personnel.*—The availability in many communities of valuable human resources not now being tapped for educational purposes has been frequently remarked. Some schools already use paraprofessionals for teaching and other functions. Teachers with incomplete (provisional or temporary) credentials are no longer uncommon and are frequently neither really provisional nor temporary. The possibilities for building a system around the regular use of qualified uncredentialed persons in instructional and other ways will have to be seriously explored and evaluated in the seventies.

Some experimental and demonstration results show that students can help teach other students, and that the process of teaching is itself educational. Moreover, students are the best available means of reaching certain other students with learning difficulties. A thoroughgoing evaluation of use of students in teaching roles will be needed, in the hope of creating schools that could truly be called "tutorial communities."

3. *Substantially improve pedagogy so as to reduce time required to achieve a given result.*—Much schooling may be too slow for the learners. In this age of TV, light shows, rock bands, and information overload, the rate of stimulation in classrooms may be below the optimum for many children. While experimental data on this matter does not abound, understimulation or stimulus deprivation can produce results that seem to be associated with the dropout syndrome. At the same time, there is some evidence that children can learn certain things much faster than they are allowed to in schools. One example is foreign language, which in the ordinary high school curriculum takes years. Yet it is possible to generate a command of certain languages in a matter of weeks, in which case there is reason to wonder about the rates of education that have become conventional. Experimentation on pedagogical technique seems warranted to see if meaningful cuts can be made in the learning time required for other aspects of education. It is important to appreciate, however, that foreshortening the period of education will either require (or allow) introducing more material to be learned, provision of some other arrangements for custodial care, or earlier access to the world of work. Since work, if it is nonexploitive, *can* be educational, a review and revision of our child-labor laws may be desirable.

4. *Modify standards of performance.*—Decreasing standards is clearly an unacceptable alternative in principle, although in practice it has been sneaking up on us for years. Class sizes have increased steadily and in some schools now reach 45. The number of dropouts, or pushouts, is startlingly high. In Los Angeles, the Governor's Commission on the Los Angeles Riots learned in 1965 that two-thirds of black students who entered ninth grade did not finish twelfth, as well as the equally impressive fact that one-third of *all* students who entered ninth grade did not finish twelfth. Schools were keyed to these rates, so that if all the dropouts had dropped back in on a given day, they could not have been accommodated. The current difficulties schools are experiencing with their budgets cannot help this matter. A new basis of funding is badly needed.

Modifying standards of performance does not necessarily mean lowering them. Part-time use of practicing professionals in other fields, for example, could make up part of the differential. If education is as important a function as Machlup and others have shown it to be, incentives for this kind of transfer of effort should be worthwhile.

5. *Increase utilization of educational resources through better management.*—Improved techniques of scheduling, record-keeping, evaluation, and selection may serve to relieve some of the inefficiencies in present practices. It is not clear just how much improvement is achievable by these means, but the attempt should certainly be made. Management training, updating, and upgrading for school administrators is very desirable.

6. *Relinquish more of the field to non-school-based arrangements.*—Almost inevitably, the economic value of certain kinds of education will increase occupancy of the field by commercial firms. The success of these firms will depend upon the effectiveness of their services. How the system of schools (both public and private) should relate to these entrepreneurs is a complex question having political and economic aspects. However, it seems likely that unless schools become more open to new materials, practices, and demands, a certain amount of what they are now doing will be displaced in one way or another. It is not too early to start to examine the advantages and disadvantages of alternative patterns of involvement and disinvolvement of schools in aspects of education.

The pressures on such entrepreneurs may tend to set new, and perhaps higher, standards of performance which the schools will be driven to emulate if they are to stay in competition. It may well be advantageous, as a matter of public policy, to enable some viable competition with or among schools. However, any such approach must be attended by an adequate solution to problems of accreditation and recognition of educational attainment for out-of-school development.

7. *Relinquish more of certain noninstructional functions to outside agencies.*—To expand the instructional services they can provide without sacrifice of quality and at reasonable cost, the schools may find it desirable to unburden themselves of certain "secondary" functions. One of these is testing and documentation of educational accomplishment except insofar as they are useful in guiding and programming the teaching function. Counseling and guidance are other functions which draw upon instructional personnel in many sittings, but which could very likely better be done by outside organizations specifically dedicated to them, and equipped to do them in a totally professional way.

Close estimates need to be made of the individual and combined effects of these measures so as to indicate the investments in them that are justified.

Supply-Related Considerations

It was observed earlier that the supply of educators is not likely to meet the demand for their services under present patterns of utilization. Something will have to give, and as already suggested, the use of instructional technology and of contract services may offer some hope. In the absence of these things, the teacher had to be responsible for transforming into the student's language and concept structure the material he was supposed to learn. The teacher had to be a repository of the material during the transfer. Thus, a permanent faculty, highly prepared for the task, was an excellent arrangement for transmitting a body of knowledge that was slow to change and, despite its breadth, was reasonably circumscribed.

In a period such as the seventies, when change is likely to be even more rapid than in the sixties, constant renewal of the educational system is a prerequisite to achieving adequate educational experience for learners. But self-renewal is difficult for a permanent teaching staff to manage, especially when demands on its services are escalating. Thus, this arrangement biases the system away from adaptive change except to the extent that teachers are replaced by new blood. While it thus promotes stability, that stability may be too rigid for the seventies.

One would imagine that a mixed faculty and market system based on educational effectiveness of services and products could offer many advantages over the present "pure" system of tenured faculty. The schools could buy what they needed to suit their educational objectives, rather than having to contain it all.

THE DEFECTIVE MARKET

Why has this not happened? With their limited discretionary budgets, schools cannot constitute a very good set of buyers for new products or services, so that the economic impetus for innovation in the private sector—that is, among industrial and commercial suppliers of such services—is not anywhere near enough to sustain a constant improvement through innovation and selection. To the extent that what is commercially available is therefore not yet sufficiently diverse nor excellent, the schools are wise to go to market very carefully for anything more than the books and equipment that they customarily purchase there. There is thus a kind of chicken and egg problem: schools do not buy because the supply is not rich nor excellent enough, and prices are too high, while the incentive for commercial producers to expand the supply and reduce prices is not what it should be, because there is no customer set that is prepared to buy at the needed levels.

EXPANDING THE ALTERNATIVES BY MARKET MEANS

Imagine, however, a more highly developed system in which there was a constant effort by the industrial and commercial firms to develop educational goods and services, and by the schools to buy what was best of these goods and services in terms of their educational value. Educators could then have a choice. Rather than spending huge sums of money for physical plant, they might choose instead to rent or lease space, or to construct useful but inexpensive temporary structures that could be removed and modified as educational requirements changed. Instead of building gymnasia they could contract with bowling alleys, swimming and ski schools, and other commercial establishments to provide organized and scheduled access to students. They might forego recruiting of some faculty members whose tenure might represent a brake on the system's propensity to adapt, in favor of contracting for entire courses or curricula, including the necessary audiovisual materials, computer programs, and great teachers. The services of these people could then be multiplied and made available on a value-added basis, which means that they in turn would receive reimbursement according to their real abilities to reach specific educational objectives. Whenever a better supplier appeared on the market, a new contract could be written. In this way, the schools could continually deliver to their students the best procurable services.

Of course, one can see many disadvantages to a system that was purely commercially based, but there are many intermediate states between the present system and a totally commercial one. Certainly educators, motivated by professional considerations, should be used to select wisely among available goods and services, and to evaluate the educational effectiveness of such services, to add or to modify the content of such services themselves, and to develop ways of using such services innovatively and creatively.

GETTING GOING

If there is a chicken and egg problem in getting started, something should be done to produce the one or the other. Some things are being done. Some States are starting up some innovative schools specifically for the purpose of developing new and better ways of educating—and great latitude is provided (in principle) for buying or otherwise procuring necessary educational services in such experimental innovative schools. On the other hand, if our hypothesis is correct, the past difficulties that the schools have had in buying such services have impeded the development of an adequate supply. Schools will not yet find the kinds of really high-quality products and services that they need, nor do they readily think in terms of real departures from present practices.

An infusion of money is needed on the supply side so as to improve and enlarge the reservoir that may be drawn upon in anticipation of the development and expansion of this new pattern. Such money can come most readily from the Federal government. One of the educational strategies that the Federal government should seriously consider is to invest much more heavily in the development of educational goods and services wherever promising proposals are available, in anticipation that when the supply becomes more adequate, the demand will be freer to develop, and a self-sustaining market process can perhaps be created. That process must be in keeping with the best professional judgment of educators, and at the same time take advantage of the profit incentive for stimulating needed evolution of contemporary education. Such an investment strategy by the Federal government could have far-reaching impact, while allowing for progressive reductions in the Federal role as the system got going.

"INNOVATION" IN THE PROGRAM BUDGET

Assuming that an adequate supply of relevant, easily available, efficient "courses" and services could be developed, how could the schools be motivated to draw upon this reservoir? One technique is to employ some variant of program budgeting, in which innovation is identified as a program objective along with the others. A small amount of the total school or system budget could be earmarked for unspecified "needed and desirable change," in such a way that if in some reasonable period of time the school or system could show that it had indeed used its innovative money effectively and had created desirable change, the amount that it would get in the following year's budget would be increased by some agreed-upon amount. Thus, schools or school systems that were creative and effective in devising and implementing beneficial innovative techniques could be rewarded for their accomplishments. An incentive structure would have been created that would encourage desirable change while leaving scope for local initiative. Continuing inputs could be made by the community, students, professionals, and others to move the system in desirable directions, and to keep it tuned to the changing standards of desirability that are inevitable in a changing society. When an adequate rate of change had been achieved, the incentive could be reduced.

INCENTIVES AND INFLUENCE

This whole scheme is nothing more than the translation into educational terms of an incentive system that has been found to work reasonably well in some of the best managed organizations in our society. Let me hasten to add that this argument is *not* repetition of the position that the management capability of industry should be applied to the backward field of education. The differences between the two kinds of undertaking are great, yet it seems desirable to infuse into the educational enterprise *some* of the dynamics that have been found to work in industry, and to recruit a larger proportion of the industrial creativity of the country into the educational enterprise in a way that students, educators, and the community generally can more effectively influence. Of course, industrial participation is a mixed blessing. In fact, important disadvantages might be imagined deriving from it, so great care will have to be taken in devising the incentive and associated power structures.

OBJECTIVES AND DIRECTION

1. *Participation*

Schools are nominally controlled by people through boards of education. In effect, however, the control is extremely tenuous because of the knowledge gap between educators and the community generally about the process of education and especially of educational administration. There is great need for increased and increasingly knowledgeable participation by interested members of the community in educational planning and policy determination. There is also a need to prevent the schools from falling into the hands, through such means, of special interest groups, or shifting unstably with the winds of public fashion. Thus, effort should go into the design of participatory mechanisms. One attractive possibility is the educational planning center. A few of these have been started or are being planned. They are centers in which information about the schools and related matters, present and projected, is assembled and displayed in meaningful form so as to form a basis for effective dialog between the educators and their constituents.

2. *Diversity*

Life styles of individuals and families in this country are growing more diverse. Career paths are becoming more complex, job changes more frequent. Demand for education, in addition to growing greater, is likely therefore to grow more diversified. To respond to the variety of educational needs, the school system—or some other instrumentality—will have to provide a greater profusion of "courses." For these to be meaningfully developed and maintained, the schools—if they remain the main vehicle for education—must tie in their plans and programs more effectively with other organizations. This will imply a kind of diplomacy and cooperative interaction to which too many schools are not accustomed. It is, of course, true that college entrance requirements, for example, reflect back into the high schools and determine their curricula and standards, while the requirements of employers help determine the curricula and content of vocational schools. But these influences are only rudimentary forms of the kinds of interactions that are likely to be necessary if the process of education is to appear as a continuous and rational one to the learner.

3. *Affective development*

Many of the emotional problems that express themselves as social unrest may derive from the essential inattention of the schools to the emotional and affective development of children. Feelings have been underrated in a system that seems to be built principally on rationality. Without derogating reason, it is possible to say that it is possible, in the long term, to use it in too narrow a sense, and that the higher reason requires emotional and motivational development in the education of any child. Attention is needed in the seventies to this aspect of education and how it can be related to more conventional aspects of the process.

4. *Pattern of schooling*

One final need may be mentioned: the need to re-examine the pattern of schooling itself.

If educating the populace is taken as the system objective, and given the current state of knowledge about how to educate, it is not at all clear that, starting from scratch, one would design a school system such as we now have to suit the purpose. For example, we have chosen to orient most of the school system towards the young, but that is not the only possibility. With the same expenditures, increased attention to the mature might make it possible to change the way early education is done by schools, and also to make both early and later education much more relevant and efficient than they now are. Six hours of school per day, for say, the twelve years between Ages 6 and 18 could be replaced, for at least some people, by three hours per day and for those years (provided the babysitting problem could be solved) and a like amount of time distributed conveniently over the rest of a person's lifetime. This would allow retooling, refreshing, and regenerating educational experience to be had when they are needed later, in exchange for the dead time that is spent in school by those children who are not motivated to learn, or are kept in school beyond their peak daily or yearly learning span.

This is only one example of a general need in education for the seventies. Its development must not be unduly liimted by lack of flexibility in thinking about it. Not all proposals for change are desirable, and great care will have to be taken in choosing. But the limiting factor should not be in a lack of alternatives nor in the mechanism used for assessing the value of proposals, nor in incentives to change where change is desirable, nor in the resources available to mediate the change where it is wanted. In all these areas, the Federal government can find a judicious role.

EDUCATIONAL NEEDS FOR THE 1970's AND BEYOND

Marvin C. Alkin, Director, Center for the Study of Evaluation, Graduate School of Education, University of California, Los Angeles, Calif.

The seventies are upon us, and to speak of the educational needs for that decade could be to speak of the needs of today. Society and education are changing and dynamic entities, and we will attempt to restrict ourselves to a discussion of educational needs related to some of the more long-range dynamic aspects rather than to a discussion of individual pieces of current legislation, or to a host of current particular problems.

In this chapter, we will address ourselves to two manifest needs for the 1970's: (1) the needs related to the changing educational technology; and (2) the needs related to the changing nature of society. In addition, we will discuss a set of needs underlying each of these areas.

MANIFEST NEEDS

The differentiation between the changing educational technology and the changing nature of society is one that is difficult to make because, in part, changes in society, value systems, attitudes, and mores are all related to and a function of the technological development of the society. Perhaps a more meaningful distinction can be made between the technological developments available and capable of use for educational improvement, on the one hand, and the technological development of a society and its subsequent impact on the nature of the society, on the other. The first of these we will refer to as needs related to "educational technology" and the second as needs related to "societal change."

Educational technology

Advancing technology, and information technology, in particular, promises to revolutionize the process of education, especially those functions of education which deal primarily with "informing." The impact of this technology will be felt in at least four ways: (1) increased use of programmed instructional materials; (2) improved instructional development through the use of systems techniques; (3) greater access to organized information through broader use of information storage, retrieval, and diffusion services; and (4) improved administration of educational institutions through the use of new technology, providing for a better articulation between instructional programs and for the use of more cost-effective procedures for meeting specified objectives.

I am sure that other papers in this volume will discuss quite fully the instructional materials which have been or are being developed in various research centers throughout the United States. Individually-prescribed instruction (IPI), developed at the Learning Research and Development Center, has already been implemented in over 100 schools and shows promise of reshaping the process of education. Other programmed instructional materials have been developed at the Wisconsin Research and Development Center, the Southwest Regional Laboratory, and the Texas Regional Laboratory, to name but a few examples.

A second notable aspect of advancing technology is the use of systems techniques in instructional development. The major advantages of the adoption of a systems approach in the development of instructional materials are the increased precision brought to the materials through attention to precise definitions, more explicit consideration of the constraints of the system, systematic procedures for making choices among alternatives, and increased evaluation, redesign, and continuing modification. In short, attention to the systems approach as a part of the development of instructional materials ensures attention to a full range of activities from research through final implementation. The approach ensures

> a continuous modification and refinement of education systems over time . . . otherwise we will get what we have had before: promising innovations for which extensive claims are made, installed in schools (many or few) and later discarded or falling into disuse because conditions necessary to effective use of the new systems were not created or because the new products suffered arrested development and were not modified sufficiently to do the job for which they were intended. (Chase, 1969).

With the implementation of education information systems and Program Planning Budgeting Systems, greater access to organized information should be prevalent in the 1970's. More information should be available about the nature of students and systems and more financial programmatic data should be provided. These information sources, in conjunction with the use of systems techniques in the analysis of data, should enable administrators to make wiser decisions in selecting the most cost-effective instructional programs.

Just as new technological advances give promise of producing significant, positive changes in education, they create sets unique to the new technology. In part, the needs are a function of the incompatibility of the present educational system, or of the current state of knowledge, with the new technology.

For example, it is impossible to introduce new technology into a system without being aware of the system effects—that is, the relationships with other parts of the system. We have pointed out the necessity for considering total instructional systems rather than piecemeal introduction of technological innovations. It is often difficult and, indeed, unrewarding to disrupt a single element of a total system. A teacher establishes a total way of behaving complete with procedures, sequences of activities, and preferable teacher-learner situation; these form the basic system that will guide the teacher's pattern of interaction. The introduction of an instructional system requires that attention be given to all aspects of the system including personnel who will often need to be trained.

What is needed in the consideration of total instructional systems is an awareness of and attention to potential users and the development of procedures for ensuring the users' comprehension, understanding, and appreciation of the system. An educational need for the seventies is to provide the adequate resources to ensure the implementation of new technology in a total systematic way. A further need is to provide resources for ongoing programmatic research and development which will continue to produce new technological advances.

A second area of need associated with the use of advanced technology relates to the relative inability of local school districts to free themselves from rigid structural patterns presently being followed in the allocation of financial resources. For example, a recent study examining school budgeting practice in California found that 80 percent of the current expenditure budget is completely allocated to those programs mandated by the State (Wickert, 1968). This restriction allows the school board and the district little option for innovation.

Furthermore, a number of factors such as increasing strength of teacher groups and political lobbies are having budgetary implications. In California, for instance, it is legally mandated that 60 percent of the elementary school current expenditure budget be allocated for classroom teacher salaries. The increasing tendency of State governments to specify maximum student-teacher ratios for school districts further restricts the budget. Taken jointly, all of these factors inhibit the ability of school districts to introduce promising technology, especially when it requires shifting from the present heavily labor-intensive (teacher) mix of resources to one that is more capital-intensive (hardware), (Alkin, 1968).

Block grants of funds from the Federal government to the States generally would be utilized by the States subject to existing regulations and, thus, would have little impact on changing the expenditure mix of schools (teachers vis-à-vis capital expenditures). In all likelihood, under such a circumstance, the adoption of technological advances by schools would not be hastened. Federal aid for elementary and secondary education in the 1970's should be allocated in a manner which promotes educational change, counters existing bureaucratic tendencies, and enables the selection of more cost-effective procedures for achieving stipulated instructional outcomes.

Another area of application of educational technology is in educational decision making. Systems approaches will be increasingly used in the 1970's in providing information to make selections among alternative processes for producing specified educational outcomes. Several impediments have existed which have precluded widespread adoption and utilization of these techniques. These are: (1) the failure of local districts to designate precisely the educational programs within their system and the attendent financial costs of each; (2) the lack of sufficient educational research knowledge related to an understanding of the nature of the interrelationships among inputs-process-outputs; and (3) the failure of local districts to specify with adequate clarity the educational objectives of their systems. There are encouraging signs related to improved technology on each of these dimensions. However, more attention to these need areas is certainly in order for the 1970's.

Societal change

The nature of our society is changing and will continue to change at what will be for many an alarming rate. The increasing sophistication of technology will modify the nature of the world of work and will have subsequent future implications for education and training. Traditional values will be tested and perhaps deemed inappropriate, and new configurations of education will need to be developed. Complementing and complicating this will be problems arising from the inevitable conflicts between technology and strongly held existing values.

There seems to be general agreement among economists, national planners, and others concerned with examining the possible alternative futures, that we might expect the world of work to be drastically transformed.

> As productivity increases, not explosively, but substantially, actual hours of work will be reduced, not drastically, but steadily. At the present time, most of the rank and file laborers still prefer a higher wage income (partly through payment of overtime) to a drastic reduction in the hours of work. However, hours of work now average about 38½ per week, and by 1980 we anticipate something like a 36-hour work week. In addition, it may become common to have a sabbatical for labor; that is, a period in which a worker, after several years of work, may need retraining or additional training, travel, or to pursue some other activity of his choice. (Colm. 1966).

Effects of changes in the world of work should be manifested in: (1) a reduction in the amount of man time required to perform the necessary functions of societal maintenance and in providing the commodities and services required; and (2) a more rapid obsolescence of technical and professional training. Together these two forces should have significant educational impact in the 1970's.

There are a number of possibilities as to the manner in which depleted manpower needs might be accommodated within a changing society. One might consider shorter work weeks, earlier retirement ages, or planned nonemployment for segments of the society. The implications of each of these approaches are quite clear and have been with us for some time—education must prepare society to use profitably an increasing amount of nonwork time. Thus, a function of education must be to provide programs which offer intellectual stimulation, insights into avocational and leisure types of activities, and promote learning as a worthwhile endeavor in and of itself.

If such a value orientation seems appropriate in light of the changing nature of society, it would of course have vast implications for the educational programs of schools. It may be beneficial, for example, to consider the education and training functions of the educational enterprise separately and to package education in a manner which makes a clear distinction between these functions.

Although our educational system has always recognized the desirability of preparing people to appreciate and enjoy their lives and seek intellectual fulfillment, it has also tended to emphasize their preparation for work. The improved educational technology, discussed earlier, will enable the more efficient achievement of preparation of people for work. Moreover, if disemployment results from rising productivity indices, the former function grows in importance relative to the latter, and we have the possibility before us of enabling people to be persons in the best sense.

With the decreased availability of certain kinds of jobs, there also will be a growing necessity for ensuring that all segments of our society have equal access to education and to available jobs. Part of the difficulty of providing "access," however, has grown from the failure of education to reflect differences among individuals and to accommodate these differences.

Perhaps equal access will be aided in small measure by current attempts toward the increasing personalization of education. Many of the frustrations of the younger generation in school today come out of lack of personalization of society, generally, and schools specifically. Students' concerns in this regard parallel the frustrations that many of us feel in trying to communicate with a credit card company computer and convince it that we *really* paid our last month's bill and should not have a "service charge." The point is that with increasing technology, great attempts will have to be made to personalize education and to provide the student with an individual identity and with personally rewarding experiences. Perhaps, this will be accomplished, in part, by increased attention to education rather than training at the elementary and secondary level, and to a greater concern for allowing individuals to use their creativity.

A second problem posed earlier related to the likelihood that professional and technical skills would become increasingly outdated during the term of an individual's career. As a result of the combination of rapid changes and increased scientific and technological sophistication, our society will have an increasing need for more people who are highly specialized professionally, with each specialty requirement in need for less than the term of a full career. This situation suggests the necessity for considering one or more professional transitions during the course of a career. That is, an individual may need to be retrained several times during the course of his career (Adelson, Alkin, Carey & Helmer, 1966).

What are the implications of this trend for education? Education has traditionally been provided in the first third, or quarter, of an individual's life cycle. The rapid changes in society leading to the outdating of careers may modify that tradition. Perhaps the future education pattern may provide for intermittent periods of education and career work. These periods of scheduled retraining would also have the beneficial effect of creating more job openings and permitting the expansion of work opportunities. Furthermore, it is reasonable to expect that the Federal government and/or industry will provide a continuation of salary during periods of educational retraining.

It is difficult to be sure about the implications of such a career pattern upon the program of what is now called elementary and secondary education. Unquestionably, new configurations will be created to serve various training and perhaps educational functions. Perhaps, also, elementary and secondary education, as presently conceived, will be modified substantially. It seems likely, however, that three of the main functions of this segment of the educational enterprise will be the acquisition of basic skills, the development of a strong interest in continued study and the pursuit of knowledge, and an attempt to help students acquire and use a host of general intellectual skills (Tyler, 1967).

UNDERLYING NEEDS

The significant advances of the next decade and of the one beyond will not be related, primarily, to the support by Congress of specific programs with dollar allocations for this, that, or the other program or group. Rather, the really important needs of these decades will be identified and met by a concentration of resources primarily in three growth areas. Resources will need to be invested in the development of methodology and procedures that will enable us to predict the nature of future societies and to project the appropriate educational tools for that future state. The second major area of educational need relates to the development of the capacity to extract from basic research knowledge and to create the educational products appropriate for meeting existing or future educational needs. Finally, there is a need for developing procedures for evaluating existing or proposed instructional strategies or educational programs in terms of present or projected educational objectives. We will discuss each of these three areas of need.

Development of procedures for educational planning

In the earlier pages of this chapter, we have conjectured about the nature of society in a decade or so, and have derived some assumed educational needs for these conjectures. It is in the nature of the future that estimates of it will often be quite unreliable. But what alternative is there? We could deal, for example, with present educational needs or problems and attempt to solve only them. But, given the lag time between problem specification, proposed solutions, and actual implementation, it hardly seems reasonable to wait until a problem is upon us before thinking about it. Thus, there seems no alternative but to attempt to deal with problems of the future.

The educator, clearly, must be concerned with the future, and he must have some knowledge of what the future is likely to be. There is a great need for refining procedures for forecasting long-range futures and for examining potential educational needs in terms of those futures.

Were we talking about nothing more than systematized conjecture, it would certainly be worthwhile. However, we believe that this is not the case; there is a good deal more sophistication that might be brought to bear upon forecasting the future. Predictions based upon demographic indicators may be formulated and models developed for projecting such things as student and teacher populations or for extrapolating from current trends and projecting possible educational environments. Newer procedures have been developed, such as the Delphi technique, contextual mapping, and scenario writing.

In terms of various statements of alternate possible futures, educators and others concerned with policy planning in education would be better able to examine the impact of adopting alternative policies or programs. Decisions would then be formulated in terms of choosing from among alternate concepts of the future based upon specified goals and outcomes, and would therefore facilitate the process of selecting from among alternative programs. Simulation and gaming procedures might be of benefit in selecting the alternative programs most consistent with the needs of alternative futures.

We have seen the beginning of new technology appropriate for educational planning, and there is now an increased awareness of the need for such planning. In the light of this, perhaps, one of the most important needs for education in the next decade is to refine the procedures for long-range educational planning.

Research, development, and diffusion

We have already mentioned a need in the next decade for adequate resources to ensure implementation of the new technology, for continuing research and development to provide further productive innovations, and for developing procedures to facilitate the implementation and adoption (diffusion) of these innovations.

The educational need for these activities becomes apparent when one recognizes that of the total expenditures available to education, less than one-half of 1 percent is utilized for research and development activities, as compared with its counterpart of 5 to 10 percent in industry. With such limited resources, it is impossible for educational research and development to keep abreast of the changing nature of society and its technological advances. There is, further, the added problem of the difficulty of introducing the new technology and innovations to school systems. Educational research and development, therefore, as a vehicle for the improvement of educational programs and systems, must move from its secondary position to one of major emphasis in educational R., D., and D., in order both to keep pace with advancing technology as well as to implement in our schools the benefits derived from technology.

The Commissioner of Education, James E. Allen, has pointed out the need to devise methods to improve educational practices through research and development activities. He emphasizes:

> the development of a nationwide strategy for maintaining a continuing process of improvement and relevance in American education. To achieve this goal we shall need to formulate a systematic, coherent plan for linking the processes of educational research, development, demonstration, evaluation and dissemination, which will help get the best materials and procedures more quickly into practice by making them readily available in useful form to those who control, manage and teach in our educational institutions. (Allen, 1969)

Given the continuing and increasing development of technological advances in the seventies, the improvement of American education will depend upon systematic efforts to effect planned investigation of the process of learning and the development of strategies and practices deriving from knowledge of that process gained through research. An adequate research and development program for the next decade, while producing knowledge and activities devoted to the improvement of learning and developing materials and practices derived from that knowledge, must also demonstrate the efficacy of those materials and practices and ensure their diffusion in school settings. In the seventies, there will be an increasing need to provide adequate funds to support such a program of research, development, and diffusion in excess of manpower and funds presently available.

In a recent article in the *Journal of Research and Development in Education*, Francis Chase echoes some of the concerns expressed above.

> It is my considered opinion that research and development may make more difference in the improvement of education in this century than anything we have yet tried, provided we move into a genuinely large-scale development effort while at the same time supporting basic research and the linking mechanisms necessary to bring about widespread diffusion. . . .
>
> If the public, through the Congress, wants education to make a real contribution to its society, the time has come to support the new institu-

> **tional base now so clearly in the making by authorizing appropriations equal to at least 1 percent of the total national expenditures in education and allocating them to rigorous research and development on a continuing basis. (Chase, 1969)**

Evaluation

Apart from the obvious potential for educational benefits through expanded research and development activities and through systematizing procedures for educational planning, improvements in educational practices are necessarily tied to the further development and refinement of procedures for evaluation. The development of procedures and systems for evaluating education at all levels is the third major underlying need of the 1970's.

A society cannot become great unless it has explicated its goals, expectations, and aspirations, and has devised "measuring sticks" for determining their progress. In the history of science, the greatest advances in the areas of human endeavor have taken place in those areas which have devised accurate, replicable means of demonstrating the achievement of goals and objectives. Much of the criticism leveled at education in the past and today comes from the relative inability of educators and others to judge the worth and productivity of their enterprise. This will continue to be a major educational problem in the seventies unless more resources are devoted to the development and refinement of procedures and systems for evaluating education.

However, the development of procedures for the evaluation of education is no mean task, nor is it one which has been completely ignored. Efforts are currently underway which would be beneficial in evaluating educational progress at the national level. The concern for the development of social and educational indicators to parallel economic indicators presently in use would be an invaluable step forward. Moreover, State and Federal education agencies are becoming increasingly aware of the necessity for developing procedures for evaluating programs which come under their jurisdictions. Notable among them is the establishment and upgrading of the program planning and evaluation function within the Office of Education and the Department of Health, Education and Welfare.

There is development work taking place which has as its goal the development of systems that would provide evaluative information useful in making judgments about local elementary and secondary schools and about the programs of such institutions. There are presently attempts, albeit inadequate, to systematize the specification of the objectives of educational institutions and programs, and to devise test items for measuring these objectives.

All of these efforts, however, are subject to woefully inadequate funding. The strength of the educational enterprise and its ability to meet the needs of the seventies and beyond are dependent in large measure upon its ability to determine the worth and relative cost-effectiveness of educational programs.

EPILOGUE

It is the nature of this assignment that frustrations face the writer at every turn. The inadequacy of the presentation can be explained by the magnitude of the task. Books could be and, indeed, have been written on each of the topics for which we have allowed ourselves the relative luxury, in terms of the space available, of a single paragraph's discussion.

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A DOZEN DO'S FOR THE SEVENTIES

Dwight W. Allen, Dean, School of Education, University of Massachusetts, Amherst, Mass.

When looking to the future, it is easy enough to dream and to say what ought to be. Such dreaming is probably quite necessary in offering direction, in lending perspective, in expanding our beliefs in our own human potential. The language of such dreaming is at once inspiring, but rather predictable.

In American education, we have dreamed for at least 150 years of public-supported education for all our citizens. For at least three-quarters of a century, we have dreamed of making such education a quality experience. For 50 years or longer, with our sophistication in learning theory and in psychological awareness, we have dreamed of individualizing such education. And now we dream of developing education as a life style that will help us to humanize the brave new world opened to us by our technological capabilities.

Unfortunately, dreams are not all that we need, for dreaming rarely seems to "make it so" in the day-to-day world. It remains for us to develop our dreams into programs that can bring rather immediate implementation—not because those programs in the dreams and designs behind them offer foolproof panaceas, but because we must somehow test the implementation at the same time we reach for the dream. In short, dreams must lead to design, and design must dare us to reach out to the fullest measure of our resources; yet, there can be no guarantee that whatever we reach and realize will necessarily fulfill the dream nor even prove that the dream was valid nor the design viable in the first place.

In the context of such design and daring, I offer these 12 notions that I think ought to be implemented and tested during the seventies in American education. As a group, they develop from certain principles, certain preferences that are not mine alone, but rather are generally assumed in our contemporary culture and in development of American civilization during recent decades, among them:

- the desire to develop strong social consciousness in every citizen
- economy and efficiency in school operations
- encouragement of systematic introspection about what we are up to in our schools
- encouragement of drastic modification or rewriting of present school legislation on every governmental level in light of what we already know about learning processes as well as of what we expect to learn through educational experimentation in the next decade
- consideration of personal ability over institutional credential
- a refocusing on quality in education and perhaps a corresponding redefinition of the criteria by which quality will be measured
- desire to institutionalize an educational component to identify and cope with the "continuity of change" that has become an unyielding process in our society

Comprehensive investigation and development of curriculum.—It is somewhat sobering to note that the typical high school curriculum—English, social studies, mathematics, science, with assorted other skill courses and a few random electives—is based on recommendations forwarded by Charles Eliot's Committee of Ten, a group sanctioned by the National Education Association, which submitted its report in 1892. That basic curriculum was formulated and legitimized primarily as a college preparatory instrument to be used in preparing some students for one kind of college experience. Since then, from such a limited focus, it has largely influenced curriculum down through the elementary grades, even into kindergarten and preschool programs.

That is not to say that no one has questioned that basic curriculum in the ensuing three-quarters of a century. Very formal challenges have been launched. But, more often than not, such questing after a more relevant, more expansive, more useful curriculum has taken place either from such diverse points of view or expectations, or in such a fragmented manner that impact on widespread practice has been minimal. The rash of curriculum studies that followed Sputnik in 1957 has led pretty much at best to a recasting of the same basic catalogue of course offerings, or to the accumulation of "more of the same," rather than to a thorough discussion based on observation of daily living and societal needs that might lead to the fundamental question: What is it necessary to know?

This basic purpose of the schools—its curriculum—needs study, probably overhaul, perhaps complete reconceptualization like no other component of American schooling. A comprehensive study of the basic curriculum ought to compare the existing traditional catalogue with alternatives that could be developed as part of the study. A new curriculum, for instance, might be built around the four basic areas *human relations*, *technology*, *communications*, and *aesthetics*. A long-range feasibility study of such a curriculum, based on such comparison, would require at least a five-year period and would cost somewhere between $5 million and $20 million, depending on the scope and intensity of the study and of whatever experimentation and development would be included in the program.

Eleven years of noncollegiate or precollegiate education.—The entire allocation of time within our schools needs examination. Nine-and-a-half-month school years made up of six-and-a-half-hour school days divided into seven school periods and spread over 12 or more years has precious little basis in what we know about learning, nor even in meeting goals now stated for our schools. One of the easiest steps to take in challenging the lockgrip that clocks and calendars now hold on our thinking about education is an examination of the feasibility of accomplishing the present twelve-year, precollegiate program, for instance, in 11 years. We have little evidence that 12 years in the typical school system is more effective than 11 years, or that 13 or 14 years would be more effective than 12.

In terms of dollars alone, elimination of a twelfth year on a precollege level would save $3 to $4 billion of the total school bill in our country. A feasibility study of eliminating one year from the 12 now held as standard below college level, plus development of strategies for implementing such a practice if it proves feasible, would require at least three years at a cost of from $100 to $500, again depending on the scope and intensity of the project.

Development of a community service year.—If schools are to become more dramatically relevant to the social problems that face us, and if they are to serve as an instrument by which we can begin to fulfill the dreams and face the facts in our pluralism, there would be few priorities higher in our educational system than those assigned to developing and nurturing a strong social consciousness in every student citizen. Either as a complement to 11 years of education below college level, or as an end in itself, the institution of one year of community service as a final year in compulsory education could hardly be surpassed in its drama and usefulness and cogency. Such community service, performed by teenagers as a substitute for the traditional twelfth year in school, might be selected by each individual from a wide range of needy areas and obvious problems in American society: rural Appalachia, Indian reservations, urban slums.

An alternative to such community service might be a series of intense activities with a strong vocational orientation aimed at offering students a preview of rewards and problems in whatever vocations they might be considering.

A study to determine feasibility of such community service of prevocational programs might be accomplished rather easily if expertise were borrowed from programs similar in purpose but lesser in scope, programs already existing: Vista, Peace Corps, work-study programs, apprenticeships, and the like.

Experimental comprehensive schools.—There is general agreement that the problems of the inner city are among the most crucial in the United States—so crucial that it has become frighteningly simplistic and customary to say so. In an attempt to meet the problems peculiar to the inner-city schools and thereby, according to many interested observers, to discover shortcomings that are simply glossed over or obscured by affluent suburban "advantages," one or more inner-city high schools, with all its junior and elementary feeder schools, ought to be identified and established as a comprehensive experimental school system within its larger urban environment. In developing such a project of experimentation and close evaluation, existing Local and State laws and regulations as well as Local school system policies, standard operating procedures, and professional contract agreements might need to be waived for the duration of the experimental period, and perhaps rewritten altogether in light of eventual conclusions drawn from the project. Thus, a comprehensive experimental school program might drive simultaneously toward three areas of major general concern: education in an urban setting; education generally; and school policy and legislation.

To be truly comprehensive, such an experimental thrust would need to be developed simultaneously on a preschool through twelfth year basis within an entire school system, for maximum evaluation results. Operational costs for each such experimental school system would probably range between $5 and $10 million per year for a ten-year period. Obviously, dissemination of the results of such a project would be a major expectation of the school system involved, to gain effective impact beyond the immediate system itself.

Performance bidding.—One of the most imaginative and potentially productive projects that ought to be launched and studied during the next decade combines certain practices borrowed from American business with certain new adaptations from developments in behavioral sciences. Certain areas of a curriculum, however present curriculum might be modified or replaced, are sure to be amenable to description in performance terms. That is, a learner can be adjudged to have completed a learning unit when he is able to demonstrate by some behavior his ability to do something that he was unable to do before he was introduced to that unit of learning. Such performance criteria are based not on time spent by the student, not necessarily on prescribed courses of study; rather, they are based on the student's ability to perform according to a certain specifically stated expectation, established as essential to mastery of whatever skill or understanding that expectation represents.

Once such criteria are established, the means toward their accomplishment are probably manifold. There is no reason why schools should hold a monopoly on those means. If other institutions or organizations or persons within a society believe they can help students to arrive at given standards or performance levels, by means other than those normally applied in the schools, such criteria might be advertised as open to bidding, much as certain other public projects are specified according to need, then opened to bidding.

A study to identify curricular areas that might thus be accommodated and to focus on the development of criteria by which performance bidding might be solicited as well as on the procedures that such practices might follow, should last two to three years at a cost of between $1 and $10 million per year.

Pilot performance packages.—From the same theoretical basis that underlies performance bidding, pilot performance packages ought to be developed in specific curricular areas. That is, curricular materials should be developed, evaluated, and modified which would effectively increase performance in an identifiable skill—reading comprehension, for instance—at various levels of sophistication. Such packages would eventually be made available to learners anywhere, either through normal school channels, or in home or neighborhood learning centers. Essentially, such packages would be designed so as to require minimal, possibly no, personal service or attention from teachers *per se;* such performance packages would tend to be self-instructional, in other words.

To identify specific areas of promise in which such packages could be developed, then to develop them with proper evaluation and modification along the way, over a period of approximately three years, costs should be estimated somewhere between $2 and $5 million per general curricular area.

Flexible organization of learning resources.—While definite gains have been made recently in computerized modular scheduling, in certain attempts at performance curriculum and nongraded schooling, most of the schools of our nation remain organized and scheduled according to lockstep blocks of time, facility, staffing patterns, and student grouping. The decade ahead should see an expansion of efforts already begun toward variability and flexibility in organizational patterns—specifically as they directly govern staff utilization and the allocation of time within the school day. The building of new school plants as well as the alteration of existing ones must be further encouraged to reflect more closely those practices which come closer than much of the traditional ones to meeting individual student needs and individual learning styles.

A wide variety of organizational schemes and models should be implemented and evaluated, based largely on educational goals locally developed and implemented according to resources immediately available. It is little less than a national shame that our schools reflect organizational patterns developed largely according to the dictates of our mid-nineteenth century agrarian society. A series of local experimental models of school organization should be funded, with other funding of school systems that choose to move into existing models developed already at selected schools throughout the country.

Differentiated staffing.—Differentiated staffing patterns are already being developed in a few schools. During the next decade, such staffing patterns should offer a range of alternatives to the traditional hierarchal arrangement in which all administrative roles are institutionalized as superior in power, prestige, impact, and remuneration to all teaching roles.

Under an effective differentiated staffing arrangement, three conditions are necessary: First, that there be at least three separate salary scales for at least three different levels of instructional role specialization—wherein the highest salary in the top scale would be at least twice the highest figure in the bottom scale; second, major teaching responsibility on the part of all instructional staff members; third, clearly delineated role differentiation for various teaching positions, described as often as possible in specific performance terms so that recruitment and training might be geared more specifically to meeting well-defined educational functions.

An initial one- or two-year study of differentiated staffing should center on strategies for transition from traditional to differentiated patterns of staffing, on identification of a variety of specific staffing patterns and alternatives, and on development of criteria by which various staff members might be selected and trained. Research involved in these aspects of differentiated staffing would require $300,000 to $1 million for a one- or two-year period. Subsequent feasibility studies and pilot implementation of the previous findings would depend on the school systems involved.

Comprehensive inservice alternatives.—It has long been impossible to staff our schools adequately with instructors who have undergone four years of rather limited college or university training with little or no meaningful requirements that would lead to continued professional development. It is quite possible and not altogether atypical, especially in some parts of our country, for inadequately prepared teachers to remain unchallenged, unstimulated, even uninformed, for the 40 years that is not an unusual career span for a classroom teacher. It is most desirable, if not downright imperative, that we begin to pay serious attention to inservice training that will help our instructional staffs to take full advantage of technological advances, as well as to keep pace with even a minimum amount of the burgeoning expansion of knowledge about curricular areas as well as about learning patterns.

A study of inservice alternatives should focus on developing and testing new approaches to inservice education for instructional staffs. Such a study would include questioning the practice of considering inservice training of teachers to be something consigned to hours "outside" the normal school day; the inadequacy and inappropriateness of some instructional techniques and attitudes as well as content; the traditional system of certifying and credentialling those who serve in our schools. A two- to three-year feasibility study of alternative inservice education models would cost between $1 and $10 million.

Identification of change leverage points.—It is not difficult at all to find strong impetus for change in our schools, and it is not too difficult to say that such change can occur in three general areas of schooling: curriculum, organization and scheduling, and staffing patterns. However, there is little rational evidence at this point that any one of the three components offers any better point of entry for change in a school system than either or both of the others. Such an important piece of information is greatly needed. In other words, which of the three components offers greatest impact in effecting change in the other two areas as well? Or, is a combination of the three needed as a point of entry in implementing general reform? A study to determine answers to such questions would require one or two years at a cost of $500,000 to $5 million.

Once answers were determined to these intial questions, pilot applications of the results should be conducted in randomly selected school systems to test how well the change strategy might generalize from local situation to local situation. The cost of this second phase of the project in defining change leverage points would depend entirely on the extent of the pilot implementation.

Development of alternative evaluation models.—Rarely does anyone object outright to evaluation in education. Few people question the wisdom of knowing what it is we are up to and then of determining whether or not we can be about it in a better way. However, evaluation has been a major source of complaint and suspicion, probably because many of its means have been inappropriate to emerging curricular designs. It might be desirable, for example, to gain a better all-around evaluation of a greater percentage of possible outcomes of an educational project or experiment by focusing simultaneously on at least three different kinds of evaluation alternatives: objectivity-centered, student-centered, self-centered. We might legitimize any of the three approaches as valid in determining the success or failure of a program and in suggesting modifications of it.

Objectivity-centered evaluation, as its name implies, centers in on data as free from bias as humanly possible. Self-centered evaluation would tend to negate or set aside the principle of comparison upon which objective evaluation rests. Self-centered evaluation would focus on belief in the usefulness of biased data. Ego-centered, it would allow an evaluator to reflect his personal ideologies, attitudes, beliefs, and knowledge. Student-centered evaluation is one to which many have given lip service, but few have given power and influence in the decision-making process. It is so curious that students—for whom schools are instituted—so rarely share responsibly in the basic decision-making that shapes that educational system and that students are so often evaluated by representatives of the institution without any allowance for returning the favor.

Pilot studies of alternatives in evaluation models would require $250,000 to $1 million over one or two years. Implementation of models once developed, again depending on scale, would require a three- to five-year effort.

Toward equalizing available resources among local school systems.—If as a nation we are firmly committed to the dreams enunciated in the introduction to this paper—continuing individualized quality education for every citizen—it is rather difficult to justify the disparity that exists, as reflected in per-pupil expenditures, between the poorest district in our country and the wealthiest. How does one justify that the existence of a producing oil well on the property of one California school district almost guarantees students in that school district a greater educational opportunity than will be afforded to those children who happen to be born in the exhausted county of a picked-over coal-mining region in the Southern mountains?

There are a number of alternatives to be investigated in financing public education, even if local political divisions remain as parameters of school control. It is easy and obvious enough to spread the Federal tax dollar as an agent to equalize financial resources among the separate school districts, but the political ramifications and argument which are so loudly vocalized at such a suggestion can be circumvented by a number of other alternatives. Private investment in public schooling already takes place in a number of ways—through personal endowment, foundation support, volunteer services. Regionalization could easily be implemented and soon might need to be as it becomes more and more likely that no single school system will long be able to afford top quality of every kind of functional specialist in sufficient numbers already needed to maintain a quality educational program. Regional service might come from the cooperative efforts of several Local districts working together, or through the redesigning and reorientation of the various county, State, or regional agencies and departments already in existence. Private business might begin to provide all sorts of educational services not now afforded to operate with an adequate number of textbooks, if there were no textbook publishers operating on a coast-to-coast basis.

A study of these concerns could take any dimension that funding might allow, both in feasibility studies and in model development.

The potential role of the Federal government in any of the dozen suggestions listed here has been stated in some, implied in others, obvious in still others. All of the suggestions could be fruitful and could provide undeniable impetus toward learning how we can increase our chances of realizing our happiest educational dreams if we only dare to do so.

A TIME TO EXPERIMENT WITH ALTERNATIVES TO EDUCATION

Carl Bereiter, Professor of Applied Psychology, The Ontario Institute for Studies in Education, Toronto, Ontario, Canada

THE EDUCATIONAL IDEAL VERSUS EDUCATIONAL REALITY

In no other institution of our society are the ideal and the reality so far apart as they are in education.

The ideal.—The teacher is a sensitive monitor of the child's entire process of growth and development, entering into it in manifold ways, never to hamper, but always to encourage and guide development toward the fullest realization of the child's potentialities. There are other educational purposes (such as a nation's need for technically trained manpower), but no other ideal comes close to all-around acceptability in a free society, and with increasing prosperity and security we should expect that other educational purposes will drop out of competition with this ideal. Thus, when we speak of education in America we speak of one ideal, shared by almost all educators, even though they differ as to how it should be pursued.

The reality.—Two to three dozen captive children are placed in the charge of a teacher of only modest intellectual ability and little learning, where they spend approximately six hours a day engaged in activities that someone has decided are good for them. In the course of 12 years they acquire a certain amount of worthwhile skill and knowledge, but only on the rarest occasions, if at all, do they encounter anything even remotely resembling the kind of teacher-pupil interaction prescribed as ideal.

It is time to question the ideal

The ideal of humanistic education—"that education in which the primary function of the schools is to cultivate the 'independence' of each 'individual' and to develop each person to the fullest"—has been with us since ancient Greece. Today, it is accepted as virtually beyond question. Educators occasionally accuse one another of holding conflicting ideals, but this is mere mud-slinging. Every scheme for educational reform is an attempt, whether misguided or not, to bring reality closer to the humanistic ideal.

Perhaps the humanistic ideal cannot be questioned on ideal grounds, but it can be questioned on practical grounds. The question may be phrased as follows:

> **Is it better to approximate the humanistic ideal as best we can, regardless of how far we fall short, or is it better to pursue some other ideal more in keeping with the limits imposed by reality?**

This is a type of question that is all too seldom asked in the social sphere, although it is common in the industrial sphere, where, for instance, the ideal of producing a machine that will last forever is frequently supplanted by the ideal of producing a machine that will give maximum value per unit of cost. This type of question has recently begun to be asked in the social sphere by members of the "Third World," particularly by members of the Centro Intercultural de Documentacion. (2) As these social thinkers see it, underdeveloped countries have taken North American institutions and technologies as their "ideals" and have strived to approximate them as closely as possible, whereas, in view of the very limited economic resources of these countries, approximations to North American models are likely to be so remote as to be seriously dysfunctional and greatly inferior to institutions and technologies based on models suited to the economic and social realities of the countries involved. This line of reasoning is directly applicable to American education, which has the same problem of resources too limited for the model it tries to follow.

Talent as the limiting factor in education

During the seventies it should become clear that lack of money is not the primary factor accounting for the great discrepancy between the educational ideal and reality. If we are unwise, we may learn this lesson through bitter experience. We may invest heavily in electronic and paraprofessional aides in order to free teachers to carry out humanistic education, only to find that they cannot do so any better than they do now. We may extend schooling down into earlier childhood, only to discover that we have spread the supply of competent teachers more thinly than before. We may increase teacher salaries only to find that the quality of teachers remains the same. We may increase the attractiveness of school buildings, equipment, and materials, only to find that students become increasingly disaffected. If, on the other hand, we are wise, we may foresee these results and channel our resources into other kinds of provisions for children that will yield greater social benefits, even though the benefits are not ones that we can properly call educational.

At the bottom of these dismal predictions is the simple premise that humanistic education calls for a supply of teacher talent that cannot possibly be met on the scale for universal education. Educational philosophers, when expounding their particular version of humanistic education, are always ready to admit that the talent required for teachers to bring it off is of a very high level. They seem to feel, however, that the talent can be produced by exhortation, and enormous amounts of educational ink go each year into resounding calls for greatness. If what is required ideally is something more than a Socrates, what is required for even a reasonable approximation is something not much less. Rousseau, who deserves first credit for re-establishing the humanistic ideal in the modern world, was less optimistic:

> How can a child be well educated unless by one who is well educated himself? Can this rare mortal be found? I do not know. (3)

The humanistic educator must be continually aware of the growing edge of the child's intellect and character. He must be exceedingly resourceful in seizing upon opportunities of the moment to turn them to educational account. To help the child learn, he must not only know what the child is to learn but know it so thoroughly that he can choose just the right question or demonstration or activity at just the right time. He cannot work from a prepared curriculum but must invent as he interacts with the child. He must at once be a good model and someone who does not force the child to be like himself or as he would like himself to be.

I could go on listing attributes, but let us try to jump from qualitative requirements to ones that can be quantified, realizing that much is lost in the process. It would stand to reason, I think, that a minimum requirement for such an educator—a bare minimum, indeed—would be an IQ of 115. Those who would object that some very clever people will earn IQ scores of less than this ought also to agree that their number will be offset by people of higher IQ who are not so clever. By this requirement we limit the potential teaching population to a sixth of the total work. The other requirements, which have more to do with personality, are not so easily quantified, but we might reasonably judge that no more than half of the people who meet the intelligence requirements would possess the other personal characteristics needed to function adequately as humanistic educators. (4) This reduces the potential supply of educators to a twelfth of the labor force.

Projections of census totals for the labor force and the student population (including those in post-secondary education) into the seventies indicates that about two-thirds as many people will be in school as will be working. (5) Therefore, if everyone who had the minimum talent to teach did teach, we should have a teacher-pupil ratio of one-to-eight. This ratio would be scarcely sufficient to carry on the kind of teacher-pupil interaction required for personalistic education, which is ideally a one-to-one operation. But, of course, we cannot expect that all or even most of the people who could teach would teach, since the qualifications are ones that also fit an increasing number of other careers (including careers in education other than teaching).

Thus, if for no other reason, humanistic education must fail on grounds of a simple shortage of talent. This shortage, moreover, is one that cannot be remedied by any immediate action. Conceivably, better education would produce more people qualified to educate, but such improvement could only come about slowly over generations of students, and for all we know the trend may be downward rather than upward. Educational technology may relieve the teacher of many burdens—it might even be able to take over entirely the teaching of specific skills and knowledge—but what remains for the teacher is the very kind of creative person-to-person activity for which talent is most wanting.

Proposals for reform of the educational system, far from promising to alleviate the strain on talent resources, almost invariably call for more teachers of more exalted calibre. This is true of traditionalist schemes for a return to basic disciplines as it is of radical schemes for the abandonment of definite curricula. It could not be otherwise, for they are all efforts to bring practice closer to the ideal of humanistic education. We must apply to them Daniel P. Moynihan's dictum that "systems that require immense amounts of extraordinarily competent people to run them are not going to run." (6)

The humanistic ideal does more harm than good

Thomas F. Green (7) has claimed that, while educators almost universally claim to be pursuing humanistic education, what they do in reality is not concerned with developing individual potentialities but with training individuals to meet the needs of other institutions in the society. It is no doubt true that what the public mainly expects of the schools is not the development of individual potentials but the teaching of socially useful skills—such as the three R's—and that the schools cannot avoid being responsive to this expectation. I believe it is incorrect, however, to infer from this that the commitment of educators to a humanistic ideology has no practical consequence.

In the first place, the humanistic commitment of educators has an effect—largely negative—on how they carry out their elementary training functions. In teaching reading and arithmetic, for instance, educators do not simply look for the most effective methods of achieving performance criteria. They tend to prefer, on ideological grounds, methods which seem to entail creativity, freedom of choice, discovery, challenges to thinking, democratic processes, and growth of self-knowledge. Moreover, they strive continually to win recognition for these values as more important than objective performance criteria.

In the second place, training in socially required skills does not begin to take up the entire school day. If schools restricted themselves to such training and attempted to do it as efficiently as possible, the school day might have to be only a third as long as it is now, and school costs could be lowered accordingly. Thus it is the addition of many other high-flown purposes, drawn from the humanistic ideal, that serves to justify the vast amount of time and money devoted to schooling and to motivate such costly proposals as year-round schooling and the extension of public education down into the early childhood years.

In the third place, educators are continually pressing for reforms that serve humanistic purposes in education. Nongrading, the open-plan school, the language experience approach, individualized instruction, and innovations of this sort are all reforms which would have the effect of shifting emphasis off training in elementary skills. Indeed, as these approaches come to be assimilated to common educational thinking, it becomes impossible to tell one from the other, because they all consist largely of reassertions of established tenets of humanistic education. And they all involve unrealistic requirements of teacher talent.

In the fourth place, humanistic values subtly infect the ways pupils and teachers are evaluated. Even if correctness and docility are still the attributes most consistently rewarded in students, there is a tendency for the less imaginative, insightful, or independent students to be regarded as failures; and such students are bound to get the message. Such students are put in a very agonizing position, since they are being condemned for failure to learn things that are not actually being taught. Teachers also tend to be evaluated and to evaluate themselves on how well they promote humanistic goals. Since these goals cannot be achieved, teachers are demoralized. Many of them are fine people and could be quite competent in training, but humanistic ideology often forces them to denigrate their own strengths.

This brings use to the last and most ignominious way in which humanistic ideology interacts with the training function of schools. It is that mechanisms of training are applied not only to the skill-learning purposes for which they are appropriate but also to other, humanistically-based purposes for which they are radically unsuited. The result is pseudotraining—ritualistic behavior that has the appearance of training but does not produce any of its desirable results. In social studies, science, and literature, teachers will often claim to be helping students to develop deep understanding, thinking abilities, attitudes, interests, and values. Lacking any definite ways of promoting such development, however, they fall back on memorization, lecture and exhortation, tasks that amount to no more than busy work, and endless practice. Even activities that are less mechanical, such as discussions, "projects," experiments, themes, and field trips, are robbed of what intrinsic merits they might have by efforts to turn them to educational account. Discussions become mealymouthed, ill-timed, and pointless; projects become mere copy work; experiments turn into dull problems or the following of recipes; themes become exercises in grammar; and field trips become holidays.

Most of what is so tedious, unprofitable, phony, and "irrelevant" in schooling is done not in the name of training in basic skills but in the name of the highest-sounding humanistic objectives. Radical critics of education find this anomaly perverse, and seem to think that if only educators could get their values straight they would do better. But the anomaly is built into the very structure of mass education. Most teachers cannot educate in the humanistic sense, and of those who can, few are able to do so even sporadically under the pupil loads they bear.

Current movements away from education

Under the impulse of humanistic ideology, many schools are moving away from the kind of pseudo-training I have described to a type of progam in which the pupil is free much of the time to do what he wants. In practice, societal demands for training are usually still recognized, but only limited portions of the day are devoted to meeting them. Individual development is seen as something that will occur pretty much by itself, and the teacher's main job is to refrain from obstructing it. One of the more recent trends is to get away from confining children to school at all, allowing them to pursue their interests in the community at large.

To the extent that development is truly left up to the child, this type of program amounts to the abandonment of humanistic education in favor of a more simplistic faith in nature. However, these types of programs carry if anything an even heavier burden of educational purpose than existing ones. As a result they are even more unrealistic and potentially harmful. The following are some of the disadvantages of this educational approach:

1. Expectations of personal growth in such areas as creativity and understanding are heightened, while the teacher is provided with even less that she can do to bring it about. This can induce a feeling of helplessness in teachers and failure in students.

2. The teacher is expected to monitor the growth process in subtle and unspecified ways, thus to function fully as a humanistic educator, which few teachers are talented enough to do.

3. Since the entire program is carried out under the auspices of the school system, it is continuously vulnerable to pressure from a public which expects something quite different from its schools.

4. The laissez-faire approach is frequently generalized to areas of skill training, where it will likely lead to a deterioration in achievement.

5. A concern to make activities educational is likely to lead to limiting the options open to children and to corruption of activities which they might otherwise enjoy.

6. Such programs are costly, not only because of the need to provide a greater variety of facilities and materials, but also because more teachers are required to supervise children when they are all engaged in different activities. When educational programs are extended into the community there are added costs from the greater demand for community facilities, while teacher costs increase even further.(8)

7. Providing an optimum environment is something that professional educators are not necessarily the best qualified people to do. An enormous variety of specialized talents are applicable, and there is no reason why the utilization of these talents should be centralized. Moreover, as a public institution the school system is barred from partisan, sectarian, or controversial activities that ought to be available to children under a truly open program.

Why not abandon the effort at humanistic education altogether?

I have argued that current and proposed methods of carrying out humanistic education through the schools only make a mockery of it, and that such education is impossible to achieve on a mass basis. Current movements away from education, however, suggest a logical next step. It consists of the following changes:

1. Restrict the responsibility of the schools entirely to training in well-defined, clearly teachable skills. This should require only about a third of the cost in money, personnel, and time that schooling costs now. What would be lost would be largely good riddance, and with exclusive concentration on training the schools could probably do a much more efficient and pleasing job of it than they do now.

2. Set children free the rest of the time to do what they want, but in doing so get them out from under the authority of the schools. Provide more economical forms of custodial care and guidance, as needed, and do it without educational intent.

3. Use the large amount of money thus saved to provide an enormously enriched supply of cultural resources for children, with which they can spend their new-found free time. These resources may reflect humanistic values to the fullest, but they should not carry any burden of educational intent, in the sense of trying to direct or improve upon the course of personal development. They should simply be resources and activities considered worthy in their own right.

4. Do not restrict children to these publicly-sponsored activities. Maintain an open cultural market, in which proponents of diverse activities may compete to attract children to them.

This proposal has, I believe, all of the genuine advantages of the current movements toward freer, more humanistic education, while avoiding the seven faults noted above. In addition it has the potentiality of enriching the cultural life of our communities in ways by which all citizens would benefit—by increasing the supply of cultural resources, some of which would be of value to adults as well as children, and also by freeing young people to pursue activities through which they could contribute their talents to society.(9)

If humanistic education existed, it would be a shame to lose it; if it could exist we should try to achieve it. When I discuss with people this proposal to abandon pursuit of humanistic education, I am repeatedly met with personal anecdotes about the one teacher in a person's school career who changed his life, who opened up to him a vision of what he could become and started him on the road to becoming it. These single events are taken as sufficient to offset all the dross that filled most of their school days and to justify the continued, largely futile pursuit of the humanistic ideal of education. To this argument I would only reply that such rare encounters, which are indeed the essence of humanistic education, are more likely to occur in a system where children are free to seek their own contacts in the cultural world.

Suggestions for governmental action

1. There is already considerable support for research on the improvement of training in basic skills. This should continue, and be made freer than it is now of ideological obstructions. There is considerable pressure from educational ideologues to suppress training research that does not conform sufficiently to humanistic educational expectations. It should be recognized that such expectations are irrelevant to the training function of schools. There should be special encouragement of research which seeks to extend the range of what is actually teachable. Thinking skills, for instance, are not now teachable to any significant extent, but some of them might be.

2. Support programs of teacher training that develop training skills. Most teachers receive no relevant training of any kind; they only learn *about* teaching and *about* children. If schools are to train, teachers must learn how to do it, and this is something that ordinary teachers could learn.

3. Support the development of new kinds of cultural opportunities for children, to take the place of schooling. This type of development should not be done predominantly by educators, and supervision of it should probably not be in the hands of the Office of Education, since it is not an educational undertaking. Various agencies concerned with arts, sciences, recreation, and communications should be empowered to support such work on the part of creative people from all walks of life.

4. Model programs along the lines set forth in the preceding section should be instituted to work out the numerous problems and to explore the numerous possibilities associated with the disbanding of a century-old institution and the creation of a new way of serving the nation's youth.

FOOTNOTES

1 The definition is from Thomas F. Green, "Schools and Communities: A Look Forward," *Harvard Educational Review*, XXXIX (Spring, 1969), 235. The somewhat more descriptive but less familiar term, "personalist education," is used by H. I. Marrou in his *History of Education in Antiquity*. New York: Sheed and Ward, 1956.

2 See Ivan Illich, "Outwitting the 'Developed' Countries," *New York Review of Books*, *XIII* (November 6, 1969), 20-24.

3 William Boyd, *The Emile of Jean Jacques Rosseau*, p. 19. New York: Bureau of Publications, Teachers College, Columbia University, 1962.

4 This estimate is probably too generous. Generally too little is known to permit the meaningful setting of minimum scores on personality tests, as was done with IQ. However, the Myers-Briggs Type Indicator (Isabell Briggs Myers, *Manuel: The Myers-Briggs Type Indicator*, Princton, New Jersey: Educational Testing Service, 1962), based on Jungian theory, provides a classification of people into types that is relevant to this issue. It seems reasonable that humanistic educators should be "intuitive" rather than "sense-perceptive" (fact-bound) types and that they should be "perceiving" (open to many possibilities) rather than "judging" types. A classification of nearly 4000 students in highly-selective liberal arts colleges (who could therefore be presumed to meet the intelligence requirement) showed that only about a third of them qualify in both categories (*ibid*, p. 45).

5 U.S. Bureau of the Census, *Statistical Abstract of the United States*: 1969, pp. 103 and 212. Washington, D.C.: U.S. Government Printing Office, 1969.

6 Quoted in *The Futurist*, III (August, 1969), 100.

7 *Op. cit.*, pp. 235–236.

8 This is true, at least, of the first major experiment along these lines, the Parkway Project in Philadelphia. See D. Cox, "Learning on the Road: Parkway Project, Philadelphia," *Saturday Review*, *LII* (May 17, 1969), 71.

9 I have in mind such possibilities as theater, music, and journalism produced by young people and youth participation in social action and scientific activities.

A STATEMENT ON FEDERAL CONTROL

Robert W. Blanchard, Superintendent of Schools, and Victor W. Doherty, Director of Administrative Research, Portland Public Schools, Portland, Oreg.

It is presumptuous, perhaps, to enter the dialogue on Federal aid with any kind of a message, since the issues surrounding Federal aid are of long standing and have been exhaustively documented. Nonetheless, we stand in a point of time when in spite of all efforts to create a rational, defensible program of Federal aid we have, instead, a hodge-podge of categorical aid developed in times of crisis.

The issue to which this article principally addresses itself is the issue of Federal control and how it should be exercised in relation to Federal support of education. One might ask how it has come to pass that in spite of almost universal expressions of condemnation of Federal control over Federal funds for education, there is hardly a program (except for impacted area programs) that allocates Federal money to elementary and secondary education that does not have strings attached.

The answer is partly to be found in the way in which these programs came into being. As pointed out by Munger and Fenno,[1] the history of Federal aid has been a series of responses to national crisis:

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[1] Munger, Frank, Jr., and Fenno, Richard F., *National Politics and Federal Aid to Education*. Syracuse, N.Y.: Syracuse University Press, 1962. Pp. 16–17.

> More than any single cause, the rate of selective service rejections produced the demands for federal aid in 1918. Strengthened by other forces, the repetition of the same events in the World War II draft produced the 1943 Senate debate on federal aid. The depression forced emergency aid to education in the 1930's. The severe post-war teacher shortage stimulated the federal aid proposals of the late 1940's. The baby boom of the 1950's—abetted by suburban sprawl—generated the school construction bills of the same decade. Impacted areas legislation followed one national defense crisis, while the NDEA was called into existence by the cold war crisis that followed the launching of the Soviet Sputnik. Apparently no crisis has yet been big enough to justify general aid to education.

It might be noted that this tradition was extended with the passage of the Elementary and Secondary Education Act in 1965, which was, in large measure, a response to a national crisis in poverty and race relations. So it appears inevitable that when Federal monies for education are allocated to achieve national goals, there will be an accounting for the money spent and an evaluation of the results achieved.

There is a further explanation regarding the reason for existence of Federal controls. Munger and Fenno point out that at least part of the confusion over the Federal control issue arises from failure to attach precise meanings to the term, "Federal control." They point to several examples of outright conflict between intentions to avoid Federal control features in legislation by Congressmen. They cite the following amusing illustration of this:

> Thus in the 1948 debate on federal aid, Senator Hawkes of New Jersey proposed an amendment requiring the teaching of the Constitution of the United States "not less than two hours of classroom instruction during each four-week period within the school year above the fifth, excluding kindergarten." When Senator Taft described the amendment as violating every principle of the bill, Senator Hawkes acknowledged the general undesirability of prescribing curriculum but argued that the teaching of the Constitution was so important that an exception should be made in its case. Most of the votes cast for the amendment came from Senators who opposed federal aid because it would bring federal controls.[1]

The eminent Senator Robert Taft of Ohio argued that Federal controls would have to accompany any effective equalization bill produced by Congress. Regardless of these views, there has been a deep commitment among educators and most legislators supporting Federal aid to keep it clear of any control over State and Local policy. Dr. Edgar Fuller of the Council of State School Officers, appearing before the Senate Committee on Labor and Public Welfare, said this:

> There are almost as many people opposed to federal control of education as are opposed to Communism. I do not know of a single educator or school board official who favors federal control of education. All of us are against it. We will not tolerate it. Any federal assistance law we support must indesputably prevent federal control of educational programs in local districts.

In spite of this feeling, and it is perhaps as strong today as in 1954 when this statement was made, NDEA and ESEA programs reflect Federal control both in specifying the purposes for which Federal funds will be spent and in the specific administrative guidelines that must be followed by Local systems in requesting funds, accounting for expenditures, and evaluating programs. But despite the fact that those who opposed Federal aid on the grounds of Federal control have seen their fears justified, Local systems appear to be living with the result with little outcry and prospect of revolt.

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[1] *Ibid.*, p. 20.

Two problems of Federal control are illustrated in these two Federal aid programs (NDEA Act of 1958 and its amended version in 1964, and the ESEA Act of 1965). The NDEA Act of 1958 is typical of crisis legislation aimed at promoting a national goal. It was this nation's effort to overcome the supposed technical superiority of the Soviet Union as evidenced in its early space successes. Areas in the curriculum it was intended to strengthen were mathematics and science (to close the technological gap that appeared to exist at that time) and foreign languages (presumably in part because a strong foreign language program existed in the Soviet Union). In 1964, the Act was broadened to include history, civics, geography, English, and reading. It appears that there are two reasons the act was broadened in this fashion. First, the urgency of the national priority for strengthening math and science that existed in 1958 did not appear to exist in 1964, and second, the commercial by-products of the Act rallied the support of commercial interests. The way in which the Act was broadened suggests that the latter influence was rather strong, for the grants authorized under the Act were primarily for the acquisition of equipment. In effect, the Act now serves to support general education but channels this support to commercial interests. An expensive system of accountability is required to insure that the funds are spent in the manner specified under the law.

NDEA, therefore, represents two important weaknesses in categorical aid: (1) the inevitable residual from outmoded priority programs, and (2) the red tape required to insure that categorical aid is used for the purposes specified.

ESEA Title I represents another type of Federal control problem. There is little question that this law was needed to initiate a massive assault on the problem of educating the poor. However, in developing the guidelines for this program and in their subsequent administration, the Federal government assumed an impossible responsibility for evaluating the myriad proposals under Title I (and Title III) and in reviewing the evaluations of programs approved. The diversity of conditions surrounding the design and implementation of these proposals taxes the imagination. The inability of the U.S. Office of Education to prescribe effectively a more feasible and satisfactory way of controlling the expenditure of these funds clearly reveals its lack of faith in the ability of States and Localities to accomplish this task locally and at the State level. Granting that such lack of faith is frequently appropriate, it is our opinion that little has been accomplished through the husbanding of these controls at the Federal level and that little contribution to the quality of local programs has resulted from this way of doing business.

Educators who control funds have a powerful drive to insert themselves into plans for use of those funds. This tendency may not be limited to educators. But, it is extremely strong in them since they are by nature hell-bent on solving the problems of the world through education, and each has his own special remedy. There is no reason to believe that a collection of educators in the U.S. Office of Education would be any different in this respect than a collection at the State or Local level.

Even if categorical Federal aid persists, it seems essential to decentralize responsibility for planning and evaluating, placing as much of this at the local level as possible. The type of surveillance needed from the Federal level (and State level, for that matter), is a sampling check on the adequacy and quality of planning being done, and a Local accounting of accomplishments that meet reasonable evaluation standards. Review by Federal officials of proposals and evaluations has been reduced and shows signs of being converted to the type of sampling operation suggested here.

The way in which Federal programs have been formulated and superimposed on the operations of Local systems shows little respect for the goal structure, need structure, and organizational structure of Local school systems. It might justly be stated that Local systems have been historically inept in defining their own goals and priorities and in using funds for adaptive and creative functions. However, to assume as a long-range proposition that a paternal prescribing of objectives will result in effective Local programs of education is akin to telling a child what he should do all his adult life. Just as a child must learn to esablish his own goals and live his own life, so must every school system learn to set its own objectives and manage its own affairs within the broadcast of guidelines. It is not until the structure of education reflects this philosophy from the highest level of government to the classroom teacher that we may assume our education system has achieved maturity and that we may more nearly expect a product of quality to emerge from our school systems.

So, we see that problems of Federal control do exist and we see also that the conditions that call Federal control into being do change. In spite of the fact that Federal aid exists and Federal controls exist, the issue of Federal control is still very much before us. Substantial programs of Federal assistance to public elementary and secondary schools are now an established fact, but the Federal government, States and Local districts are still struggling to find patterns of aid that will reflect an appropriate role for each of these participants.

It is our hope to present a more satisfactory definition of these roles than has been offered before. This should begin, we believe, with the acknowledgment that the body appropriating funds at any level should, and in fact must, exercise certain controls over the use of those funds. The controversies in the past have dealt with the question, "Should Federal control exist?", whereas they probably should have dealt with the question, "What controls is it appropriate for the Federal government to exercise?"

Many states have solved this problem to a fair degree of satisfaction. They have created formulas to distribute State revenues to Local school systems and have established minimum standards of schools which Local districts must meet in order to qualify for State funds. Since Local school districts are, in effect, arms of the State government with full delegated power to create and maintain programs of education, the control of State governments over Local educational systems has been exercised with a light touch consistent with this delegation of authority.

The Federal government, on the other hand, not having experienced this direct relationship with Local school systems in the past, must create new and appropriate roles for itself. It should make its influence felt in a way that is consistent with the fact that States are responsible for public education and delegate this responsibility to Local school boards.

The proposal we would make is that the Federal government should exercise its control by establishing a State-Federal partnership through which a new system of accountability can be established. Accountability implies setting goals, formulating plans to meet those goals, and evaluating success in meeting goals. Without these components, accountability is a hollow concept.

The delegation of education to Local boards of education implies the need for the setting of goals peculiar to the needs of a given community, and the system we now have is uniquely designed to provide maximum flexibility in serving widely varying economic and social requirements at the local level. However, urbanization and developments in communication are reducing differences among communities. This, combined with the mobility of the population, requires a greater commonality of educational background than ever before in this country's history.

It appears, therefore, that there are legitimate national concerns as well as legitimate and distinct State and Local concerns which should be reflected in local programs of education.

It might be useful to distinguish between "goal" policy and "program" policy in seeking an answer to the Federal role. There are many illustrations of organizations that set program goals and policies within the broader policy framework of organizations of which they are subsystems. The Federal government is in a position to exercise a powerful and constructive influence on public education in the goal domain. It can mobilize the best informed persons in the nation to review needs and establish national educational priorities. It can establish the research, analysis, and information instrumentalities needed for this process. It can arrange for participation that will represent the diverse elements of the society.

There is an urgent need for this function. The efforts of such groups as the Educational Policies Commission have fallen far short of meeting the need in terms of the quality of the product rendered and the authority with which such groups can speak to the educational system.

The Federal government, through the U.S. Office of Education, can and should enunciate such goals as "remove obstacles to the full development of the nation's human resources" (an objective within which special efforts to educate the disadvantaged would fall), or "improve the quality of life of the people."

However, the implementation of such goals, once enunciated, should be the work of Local school systems. The way in which Local districts discharge this responsibility should be free of outside influence. The area of policy that would remain the preserve of Local systems would be program emphasis, program design, and internal resource allocation. Federal funds might, under this concept, be withheld if progress toward the broad Federal goals cannot be demonstrated, but could not be withheld because funds were allocated in a given way at the discretion of Local boards.

Goal policy could still be exercised to some degree in school districts by setting Local goals within the framework of the broader social goals of the Federal government.

This arrangement has an interesting parallel within Local school systems, where interest is being shown in decentralizing responsibility to school principals and teachers, within a framework of broadly defined district objectives.

The principal is the last link in the management chain that carried out the program support responsibilities, while the teacher makes the final interpretation of instructional program objectives.

It is suggested that the Federal government in designing future programs of Federal aid consider two major steps. The first would be to convert special programs to noncategorical aid programs, especially where special programs no longer represent high national priorities (as in the case of NDEA). Ultimately, it might be hoped that such programs would be as broad as "regular education in the public elementary schools," "regular education in the public secondary schools," "preschool education," "special education," and "vocational education." (Obviously, this suggestion has been made before!)

Second, as programs are converted from special to general aid categories, provision should be made for the U.S. Office of Education in cooperation with the Compact of Chief State School Officers, to establish State Evaluation Centers to work with state governments in establishing indicators of progress by which the effects of Federal monies on local programs might be measured. The more general the categories of aid, the more comprehensive the set of indicators would have to be to measure the effects of the program.

The chief administrative officer of the State Evaluation Centers should represent a joint appointment by the Commissioner of Education of the United States and the chief state school officer in each state. This officer should be outside the line organization of the particular State department of education and should report directly to the chief State school officer in much the same manner as suggested by Dr. Henry Brickell in a report some years ago to Dr. James E. Allen, Jr., then Commissioner of Education in the State of New York.

In effect, what would be measured would be the joint effectiveness of the Federal, State, and Local financial effort in producing results agreed to as important by the respective agencies. Indicators that might be maintained could include dropout rate, students graduating from high school, numbers completing various years of college, illiteracy in the adult population, and also the general effectiveness of school systems as measured by their specific goals and insights as to how they wish to be measured (set in advance). Local school boards would have to establish these more specific goals and would, in turn, delegate the achievement of these goals to superintendents, school principals, and instructional staffs.

Indicators of progress within a school system would be more specific, such as measures of affective and cognitive development, ability to solve problems, school attendance, physical fitness, and broad vocational skills. The goals of the district would represent a Local interpretation of the guidelines offered by the Federal-State partnership, and the instructional objectives of teaching staffs would represent a still further localized interpretation of the objectives of the school system.

Through this process a consistent framework of goals could guide the operation of school districts throughout the nation while permitting a high degree of flexibility at the Local school district and school level in the selection of specific objectives.

Our thesis is that arguments over Federal control should be replaced by consideration of the forms of Federal control that would best support local productivity and adaptability. The steps just outlined could move us in that direction.

EDUCATIONAL NEEDS FOR THE SEVENTIES IN ELEMENTARY AND SECONDARY EDUCATION

Charles R. Bowen, Vice Chairman, National Committee for Support of the Public Schools, Washington, D.C.

SUMMARY

There is a body of organized research on the question of change, primarily scientific and technological innovation which reinforces the hypothesis that major changes within any established bureaucratic structure, such as education has become in our society, generally comes from outside the system. If major changes in American education during the 1970's are likely to come from outside the educational system, what historical and technical trends can we anticipate so that we can plan now to cope creatively with them:

1. *The revolt of the slum dwellers at the quality of urban education.*

Congress can help diffuse a major political issue and facilitate breakthroughs in the emancipation through education of the children of the slums by making possible a variety of options or alternate educational paths for elementary and secondary education in our urban slums.

2. *As a result of the information explosion, particularly in technology, vocational and technical education will have to increasingly resort to various forms of self-study to keep pace with the growth of information.*

Congress should initiate and support education development centers devoted exclusively to the development of curriculum material in self-study format, whether carried by page, audio-visual devices, or a system of computer-based terminals for vocational and technical education.

3. *A natural corollary to the information explosion will be the proliferation of information-conveying devices to the point where computer-based information terminals will be in almost every office and many of the homes in the U.S.*

To prepare teachers, administrators, and special school personnel to utilize these information-conveying devices creatively for educational purposes, the Congress should make possible a massive retraining program for current personnel in the schools, as well as those studying to enter teaching, school administration, etc.

4. *As a result of the expansion of science and technology in the U.S. there will be an accelerating increase in the need for knowledge workers. At present the U.S. educational system is not meeting this need and the U.S. Department of Labor forecasts an immense shortage of*

technicians, engineers, programmers, systems analysts, physicians, and nurses by 1975.

In order to improve our system of manpower forecasting and educational development to meet the needs forecast, the U.S. needs a Manpower Council in the Executive Office of the President whose aim would be to systematize the dozens of educational and manpower programs within government to insure that the overall manpower needs of the U.S. are met in the future.

I. INTRODUCTION

As Americans we take a particular pride in our system of education, which is the largest in the world. Education is seen as the open door to opportunity, the road to achieving Thomas Jefferson's great dream of "a democracy of opportunity and an aristocracy of achievement." Traditionally, we have believed in the ability of education to solve our national problems. Education has been viewed as the answer to such social problems as increased opportunity for minorities, economic equality, and the Americanization of immigrants. It is hardly an exaggeration to call education the "religion" of our secular society.

However, the very size to which our "educational establishment" has grown has made it very resistant to change. It is natural for any large, well-organized group to resist change. This is as true for the private sector of our society as it is for the public sector. The ability of a true bureaucracy to absorb change without really changing is phenomenal.

There has been a great body of organized research on the question of change, but primarily scientific and technological innovation. The studies with which I am familiar range from those of Professor Joseph Schumpeter at Harvard to the more recent work of the Department of Defense, particularly Project HINDSIGHT. Two general principles appear obvious throughout this research on the nature of change within organizations:

A. Major changes generally come from the outside; and

B. Although talented or gifted individuals serve as catalysts, their operations would be relatively meaningless were it not for opportunities or demands presented by the march of events, whether historical events or scientific and technical developments "events."

Such a hypothesis certainly does not imply that *all* people are merely passive conduits for change, responding only when pushed. Undoubtedly, most people are. But there is within any creative, evolving society brilliant or gifted people who can serve as catalysts between the great events of change and the educational system. One can immediately think of John Dewey and progressive education; Abraham Flexner and medical education; Jerrold Zacharias and high school physics; James Conant and school district consolidation.

However, research on innovation does *not* explain why:

A. It was Professor Zacharias rather than others working in the same area at various teachers' colleges that greatly transformed high school physics in the U.S., and,

B. Why Dr. Conant was as unsuccessful in his campaign to increase the number of guidance counselors per student as he was successful in his campaign for school district consolidation.

For answers to questions of this sort, we must turn to those in the philosophy of phenomenology or in modern management, who practice the systems approach where each system must be examined for its unique characteristics and the functioning specific to its own organic situation.

II. IMPLICATIONS

What are the implications of this hypothesis for the future of American education? The ancients in an earlier time tended to be resigned and passive about the power of fate and man's inability to change what seemed to them the predetermined course of history and nature. However, as Gaston Bergere, former Minister of Education in France and founder of the Prospective group, so eloquently stated: "Day before yesterday Man obeyed Nature; yesterday he was her partner; today and tomorrow Man is her master, responsible for her well-being as well as his own—so great is that power which science and technology has bestowed upon Modern Man." Personally, I am somewhat less kingly in my approach to nature. However, there is a great value in anticipating trends and in planning to cope with them as creatively as our human insight and limited resources will allow. Think only if we had been able to anticipate the direction and full impact of the combustion engine what we might have been able to achieve in the way of highway safety, urban and suburban development, compared to the sprawling slums and mega-deaths we have inherited along with 100 million cars, trucks and buses.

Modern society has grown to the point of size and complexity where there are an increasing number of problems which simply cannot be solved on an "an hoc" year-to-year, crisis-by-crisis basis. Such problems can only be solved on a long-range, planned basis. I would suggest that education may find an increasing number of such problems in its own backyard, some of which seem to be clear to us now, such as the failure of the slum school, and the failure of our education system to produce an adequate supply of certain classes of professional and technical talent. I fervently hope that it is not too late to solve either of these two problems; yet we cannot always predict the point at which precipitous events make us the prisoner of past errors of omission and commission.

None of these ideas is radically new. All we have done is to add a time scale or time dimension to the old means-end dilemma which I believe John Dewey addressed better than anyone else. His point that there must be an interaction between means and end, technique and purpose, for either to remain relevant is even more true today than it was in his time.

By technique, I mean technology as well as that ensemble of practices by which one uses technology. Professor Laswell of England defines *technique* as the ensemble of practices by which one uses available resources in order to achieve certain valued ends. This definition of *technique* implies a cluster of rational and efficient practices which include technology and science.

Let me give you an example of the catastrophe which can happen if men fail to understand and master the march of technique. In this case, a certain attempt was made to master a technique (which I suppose is better than doing nothing), but the full consequences of the new technical system were not anticipated.

During the crisis of August 1914, it suddenly appeared that Germany might not have to attack France—but only Russia, whom the kaiser believed with good reason he could defeat. Elated over this possibility, the kaiser summoned the younger von Moltke, chief of the German General Staff, to inquire if the vast army headed for the Belgian frontier could be turned around and headed for Russia. Von Moltke was shattered. The rapid mobilization plan of the German army was probably the most advanced technical plan in the world. Based on the technology of the superb German railway system, it was an enormously complex plan worked out by thousands of clerks in those pre-computer days, which allowed Germany to concentrate in a short time over a million troops along the Belgian frontier. But there were no options built into the plans. The kaiser, at best a poor administrator, had never known enough to demand that the plan be designed to serve a variety of goals. As a result, Germany became a prisoner of her own rigid technical system. Von Moltke replied that to try to reverse the thousands of troop trains headed for France and head them for the Russian frontier would result in chaos, in having an army on neither frontier. It is said von Moltke never recovered from the shock of that encounter. Neither did the kaiser or Imperial Germany.

In 1961, John F. Kennedy inherited a similar situation. The Strategic Air Command was probably the most advanced technical system in the world. But there were few options or choices built into this superb technical system. In a sense, President Kennedy could either *use* SAC and destroy civilization—or *not* use it and surrender.

In selecting Robert McNamara as Secretary of Defense, Kennedy brought in a man who could understand the new technical system well enough to know what choices and options could be planned into it *in advance* of the cataclysm of precipitous events.

The point is—technique *can* be controlled if you understand it and know where decision making can be built into the system so that you can be sure it serves *your* purposes and *your* goals.

If we must anticipate the future in order to build into systems purposes and options consistent with our goals in order to control technique, what major trends and events can we predict in our current American society which will impact education and call forth those gifted people who can interpret historical trends and events into the necessary changes in education in time to be effective?

A. The first and most obvious trend is the revolt of those minorities trapped in slums. Let us hope that it is not too late to solve this problem. Certainly, the demand for a new or vastly changed system of schools in the slums tailored to the needs and interests of students and parents is unquenchable. We are so close to the problem it is difficult even to try to predict who will serve as the innovators or change agents between this powerful trend and the institutions of education. There are private citizens and great foundations who believe the public school system in its present form will never be able to meet this challenge and look instead to other new institutional devices for conveying education to the children of the slums.

We hear advocated a variety of approaches to this challenge: decentralization and localized control of present systems; private schools;

schools run by industry or other new groups; or even slum school systems run by the Federal government.

The present schools in the slums, for a variety of reasons, have become so unresponsive to the needs of their "clients" that the issue has become political rather than instructional or purely educational and has moved into the area of the political control of the schools due to the frustration of the slum dwellers.

Certainly, Congress could defuse a major political issue and hopefully facilitate breakthroughs in the emancipation through education of the children of the slums by making possible a variety of options for elementary and secondary education. This is being done now on a limited, experimental basis through private support. Alternate educational paths might also benefit the public schools by relieving overcrowding and by providing the true innovators within the public school system outside models which could serve as bench marks for changes long overdue in the public schools. However, Federal financial support for alternative educational paths within the slums would have to be designed with great care lest it become a tool for those who desire to establish school systems segregated by race, religion, or class and would prefer to see a downgrading of our entire public school system.

B. The second major trend that obviously is impacting education is the "information explosion." By now it is a popular cliche that the total body of information available to our advanced society is doubling about every eight or nine years. Education has already seen the impact of this trend in the massive curriculum revision and teacher retraining programs which it has necessitated. Due to the increasing cost of hiring teachers trained in the most up-to-date information or in retraining present teachers, military and industrial education which annually involves billions of dollars in expenditure is increasingly turning to self-study systems using a variety of old and new information transmitting media such as films, textbooks, programmed instruction, audio-visual devices, as well as computer terminals to free the expensive talent of the teacher for those activities which only a person can perform and which cannot be displaced by automation, whether on a page or through a computer.

If vocational and technical education are to keep abreast of technological change, it may be necessary for the Federal government to initiate and support centers devoted exclusively to the *development of curriculum* materials in self-study format, whether carried by page, audio-visual devices, or a system or computer-based terminals. The Educational Development Center in Newton, Massachusetts, is an excellent example of a curriculum development center, although EDC has yet to produce a variety of vocational or technical courses in self-study format.

EDC also manages to utilize the talents of the private sector in that EDC curriculum materials, once developed, are produced and distributed by private publishers with existing sales forces calling on the schools. In our unique and unconventional American system, often the unsung hero in the diffusion of innovation is an effective salesman. Whatever the faults attributed to the Willy Lomans of America, innovative industries, such as drugs and computers, owe much of credit for their rapid progress to the energy of well-trained salesmen.

C. A natural corollary to the information explosion is the proliferation of information conveying devices. In a society saturated with information, we are witnessing a proliferation of devices aimed at automating the handling of that information. The printing press of the fifteenth century began this trend and has furthered it tremendously. The computer is probably the most advanced stage in the automation of information that we have yet seen. However, it is well to remember that the computer, itself, is still a "teenager," having been developed less than 20 years ago. We probably are at the middle stage of its development.

There seem to be three predictable stages through which a new technology usually advances. If we look at computers and automobiles together, these three stages become more apparent. However, for the automobile one could substitute other technologies such as radio, TV, telephones, or steam-generated power, to name only a few.

In its first stage a new technology is generally used simply to replace an older technology on a one-for-one basis. For example, the first automobile was considered a "horseless carriage." Engine power was seen as simply replacing animal power. The electronic computer in its first stage was used simply to replace the functions of accounting and tabulating machines.

Then more innovative men began to see the *new* potential in the new technology—and the second stage of development takes place. The "horseless carriage" was redesigned to capitalize on the greater speed and range of the gasoline engine. For this, a system of good roads was needed. And as roads were built over longer distances, buses and trucks were developed which utilize *both* the road system and the unique potential of the gasoline engine.

We are at a similar stage in the development of the computer. We are now performing operations with computer systems which would have been impossible with the old accounting machines. The change in *degree* from the old is sufficient to become a change in *kind*.

However, the real take-off in computers is yet to come. There is a third stage where the full impact of a new technology is utilized on a mass, even revolutionary basis and changes significantly the way people live—just as automobiles have revolutionized life in the United States.

The next stage in computer development will have profound consequences for education. The computer is coming out of its shell. The third stage of computer development should allow the individual to have a terminal tailored to his individual needs—a terminal similar to that seen in an airline office that can put the capacity of an entire computer system at the service of one individual. The decreasing cost of computing and the increasing wealth of society will make possible in our time the utilization of computing on a mass basis.

To realize the potential of this for education, particularly the education of those who no longer require baby sitters, look ahead 15 or 20 years to a society saturated with information conveying devices. By that time, there will be millions of computer terminals in homes, offices, factories, stores. In addition, we will have multi-channel television with 80 or more channels. Video recording in color will be as cheap and prevalent as long-playing records today.

Two other trends are almost certain to take place. One will be a marriage of the various audio and video electronic information devices in the home—with a computer terminal controlling them in line with the unique tastes and need specified by the individuals in the home.

No stretch of imagination is required to predict that self-study education will ride these vast information conveying systems "piggyback" as an additional "add-on" usage at very low cost. However, the time to begin preparing for this revolution is at hand. Teachers, administrators, and special school personnel such as guidance counselors must be educated in the use and design of these new information-conveying systems and devices; otherwise the design and control of the new systems will by default be done by those outside the educational system whose knowledge of children and of what really must be accomplished in the schools will be minimal. The Federal government should make possible a massive retraining program for current personnel in the schools as well as for those who will be entering the schools in the future, if educators are to remain masters in their own house.

D. Another corollary to (B) and (C) above will be a tremendous increase in the need for what Peter Drucker calls "knowledge workers." Professional and technical talent as a percent of the U.S. labor force has increased from 4.3 percent in 1900 to an estimated 18 percent[1] in 1975—a 400 percent increase in 75 years. There is some reason to believe the trend of this curve is accelerating upward at a geometric rate. Essentially what we are seeing is a great increase in the demand for professional and technical talent to handle the scientific and technical systems saturating our society.

Based on the data available to us at present, the Bureau of Labor Statistics predicts a shortage of over 750,000 technicians, engineers, programmers, systems analysts, physicians, and nurses by 1975. The list of other technical and professional occupations where shortages are anticipated is great. In areas such as auto mechanics, home appliance repair, oil and air conditioning servicemen there has not yet been a systematic attempt to quantify the obvious disparity between supply and demand which is increasing rather than decreasing.

Such manpower shortages can either inhibit or make extremely expensive the growth of the U.S. economy in both the public and private sectors. In addition, education will be the victim of these shortages in the sense that it will become increasingly difficult to secure qualified instructional talent in areas of severe shortage.

The U.S. has gone further in this direction than most Americans realize. The report of the *Commission on Human Resources and Higher Education*, set up by the National Academy of Sciences, to be published shortly, points out that despite the size of our system of education the U.S. is facing a crisis in the supply/demand relationship of certain types of technical and professional manpower. One indicator of how far the U.S. has moved in this direction is the statistics on job vacancies collected in 13 labor markets by the Bureau of Labor Statistics in 1965. Although professional and technical comprised only 12.4 percent of all jobs at that time, they accounted for 20.9 percent of all job vacancies.

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[1] U.S. Department of Labor, Bureau of Labor Statistics.

What we need is an improved system of manpower forecasting and educational development to meet the needs forecast. We give a great deal of lip service to this idea. The Vocational Education Act of 1968 authorized up to $5 million a year for "national, regional, state and local studies and projections of manpower needs for the use and guidance of Federal, State and Local officials and advisory councils charged with responsibilities under this title." However, partly because the mechanisms of manpower and educational policy are so diverse in the U.S., policy makers generally have been unsuccessful in the task of carving up the mountain into something manageable. There is almost no systematic analysis of the output of America's vast enterprise of education in terms of quality and quantity, from the point of view of the nation's long-range needs, benefits, and optimum use of talent.

At present, the U.S. does not have a single consistent manpower policy but rather a constellation of manpower policies that have evolved in a largely "ad hoc" fashion. Some of our policies in the manpower area are contradictory. Others have outlived their usefulness. However, if the U.S. is to meet successfully the challenge of the so-called Post-Industrial Era, a period when an ever increasing percent of the labor force will be in professional and technical categories, those acts which constitute either through default or through active intent U.S. manpower policy must be better oriented toward the needs of public and private employers.

There have been attempts in the past to improve the balance between supply and demand in professional and technical manpower. In 1964 the Killian Committee was set up in the National Academy of Sciences on the recommendation of the President's Science Advisory Committee. One result of the Killian Committee's work was the establishment of a partially official, partially private National Manpower Policy Task Force comprised of a number of leading scholars in the manpower area. However, rather than working with the Executive Office of the President, this Task Force was delegated to work with the Secretary of Labor, who within the Federal Government does not have the direct responsibility for high level manpower. As a result, the Task Force has not focused on all the structural problems involved in the adjustment of the U.S. labor force to scientific and technological advance.

What is needed for an era where manpower resources may be more critical than capital resources to the growth of the nation is to have the President of the United States establish a Manpower Council headed by a member of the White House Staff whose function would be similar to the already established National Security, Urban, and Rural Affairs Councils. A Manpower Council in the Executive Office of the President would aim at systematizing the dozens of educational and manpower programs within the government to ensure that the overall manpower needs of the U.S. are being met.

I am aware that a proposal for a Manpower Council in the White House may be interpreted as an all too familiar call to arms—"We have a problem, let's set up a Council in the White House to solve it." If the situation were less serious, I would not recommend that such a step be taken. However, my concern is that U.S. economy has taken such a fundamental and accelerating shift toward a larger number and percentage of well educated "knowledge workers" that unilateral programs by a single institution, industry, or association are no longer adequate to address the attendant problems.

A more systematic approach to occupational forecasting on a national basis would, of course, be invaluable to vocational and technical educators which at present must foresee occupational futures "through a glass darkly." In fact, the entire educational community should benefit from a system which so clearly links national growth and welfare with the adequate development of our educational system.

An additional by-product of an active, effective manpower policy in the U.S. should be increased student and parental interest. There is considerable research to indicate that a more accurate reflection of occupational needs in education will increase student interest. For years student surveys have indicated a strong demand for education that is occupationally as well as socially relevant.

It will be the task of the educational community in the U.S. to make certain that no single segment of manpower development is overemphasized to the detriment of another. It is imperative to keep the scope of learning broad enough to encompass both liberal and occupational education for, as the American philosopher John Dewey perceived, neither can be fully relevant without the other. Dewey maintained there must be a lively interaction between the technology and purpose, between means and ends if society is to remain dynamic. Albert Einstein has described this as an age characterized by "an abundance of means and a poverty of ends." One way out of this modern dilemma is to insure that students in our schools of technology and science are concerned with the overall purposes and goals of the vast systems they will design and implement; and that students in the liberal arts understand technology well enough to see where choices consonant with individual goals and social purposes can be built into the new systems.

WE NEED A HANDBOOK . . .

Eugene M. Boyce, Director, Research and Development Center in Educational Stimulation, University of Georgia, Athens, Ga.

Several key program personnel of the Georgia Research and Development Center in Educational Stimulation were seated in the office of Dr. Henry M. Brickell, Director of Studies, Institute for Educational Development, New York, on a dark day in November, 1969. Their task was to refine a statement concerning the development of logical thought processes. The statement had been written at the Georgia Center to serve as theoretical base for a program designed to bridge the gap between research and education programs for young children.

After some hours of analysis and discussion, Dr. Brickell, summing up the frustration manifested by the group, remarked, "We need a handbook." This remark set in motion a chain of thought that has led directly to the present proposal—that such a handbook be developed. The proposed handbook would condense, organize, translate, and evaluate research already done in the areas of logical thought. It would summarize and review the development of processes and maturational stages and tell in plain language how learning, especially in young children, takes place. Special emphasis would be given to the preschool child.

Congressman Pucinski has invited a number of educators including the writer of this paper to "... think broadly concerning those areas in education in which new Federal initiative should be stimulated. . . ." Such a mandate should result in the submission of some elaborate billion-dollar schemes for the improvement of education. Faced with the compelling educational and social problems of our nation today, ambitious schemes and massive programs seem to proliferate, proposing many roads by which we might be extricated from our present dilemma.

In the world of technology, discoveries and inventions can be placed on a continuum between two extremes. In the gaseous diffusion method of extracting Uranium 235, for example, results are proportional to input; to produce the quantities of uranium necessary for atomic bombs, miles and miles of diffusion apparatus are required. But another great invention of our day, the transistor developed by Bell Laboratories, triggered a self-feeding chain reaction that can never be stopped. This as much as any invention made possible man's trips to the moon and shortened the time of preparation therefore for many, many years.

The writer does not intend to imply here that there is a "transistor" just around the corner for education. He does propose here and now, however, that there are critical points in the process of educational development that could be triggered by a relatively small financial input.

The most crucial problems of our nation are the result of vicious cycles that generate their own inertia. The task to be undertaken without delay, then, in the field of education would appear to require a concentration of our efforts on finding a critical point at which the cycle could be broken rather than that we should continue to mount massive attacks on the whole system. Some of these cycle systems, outlined by Berelson and Steiner,[1] are as follows:

> Deprived children tend to become poor parents, whose own children then tend to be deprived;
> the unpopular child, feeling rejected, withdraws, becomes more ingrown and, as a result, more unpopular;
> a deteriorating area of the city attracts social delinquency as a result of which it deteriorates further;
> the official leadership of a formal organization, when opposed by the informal channels of personal relations within it, will tend to tighten up bureaucratic controls, and as a result the informal channels become more cohesive still;
> a deprived group, such as Negroes in the United States, is restricted in such social opportunities as education, as a result of which it is thought to be less educable and hence deprived further. . . .

On a sunny day in that same month of November, 1969, but this time in Phoenix, Arizona, James E. Allen, Jr., Assistant Secretary for Education, delivered a speech in which he named certain broad goals[2] for the United States Office of Education:

> The first goal is to develop a nationwide strategy for maintaining a continuing process of improvement and relevance in American education.

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[1] Bernard Berelson and Gary A. Steiner, *Human Behavior: An Inventory of Scientific Findings* (New York: Harcourt, Brace & World, Inc., 1964), p. 661.

[2] James E. Allen, Jr., "Strengthening the Office of Education for Service to the States" (Paper delivered before Annual Meeting of the Council of Chief State School Officers, Del Webb Towne House, Phoenix, Arizona, Monday, November 17, 1969), p. 6.

> This requires a systematic plan for linking the processes for change—educational research, development, demonstration, evaluation, dissemination—so that the best in materials and techniques can be more quickly and readily available in useful form to State and Local school officials.

The first objective calls for the linking of educational research to program development. On the successful negotiation of this initial step depend most of the giant steps to follow in the Federal attack on the nation's problems in education.

Mr. Allen's projected plan ". . . . for linking the processes for change . . . educational research, development, demonstration, evaluation, dissemination . . ." certainly merits the serious consideration of all involved in seeking solutions to our difficulties in education. Inherent in Mr. Allen's statement is the supposition that there exists an organized knowledge base, a product of research, a platform from which the first step can be taken toward the development stage. The writings of such men as Bruner, Piaget, and Gagné give us grounds for the sanguine hope that such a knowledge base does exist. But there remains a nagging suspicion that this platform may be little more than a disorganized collection of planks and two-by-fours, and like the mail-order Christmas bicycle, it has yet to be assembled.

So—"We need a handbook." This handbook would present the assembled knowledge base. It would chart a plan to strengthen the weakest link in the chain of which Commissioner Allen speaks.

The model or framework for the development of such a handbook could begin with the scheme followed by Berelson and Steiner in their inventory of scientific findings concerning human behavior.[3] This study summarizes the conclusions of researchers on human behavior under 1045 numbered findings of which Number B25 on page 201 under the heading *Problem Solving and Creative Thinking* is an example:

> Novel solutions are rarely approached through overt, gradual, step-by-step approximation, with each step slightly closer than the preceding one; solutions seem to be attained or approached suddenly, or in spurts, after periods of futile attempt or even overt inactivity (again, the "Aha!" phenomenon).

The preparation of the handbook would go far beyond library research. An important early feature of the study should be the work done during evaluation and amplification sessions when leading experts in the fields of research could exchange views, reach conclusions, and map out routes worth following. A full-time working group on this project could include a senior research director and a junior staff to assemble and codify material. The time to be devoted to the proposed study could be a minimum of three years but should not in any case exceed five years. The ceiling of cost might suitably be set at $10 million but could possibly be held between $5 and $7 million.

It would be most desirable that the content of this handbook be assembled under Federal sponsorship. The consolidation and evaluation of research results cannot be expected to result automatically from the creative drive of the research worker; neither can we require of the expert in curriculum development such detachment from the day-to-day problems in education as would be indispensable for the discovery or invention of our new "transistor." If this task is to be accomplished successfully, it must be sponsored by an agency that can command a broad overview of the whole problem. In addition, a project such as this would be far too complex and costly to be carried out by a single municipal or State school system. Yet, the cost would be minimal compared with the total budget of the national effort in the research-development-demonstration-evaluation-dissemination chain which is awaiting activation.

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[3] Berelson and Steiner, *Human Behavior*, p. 201.

MOTIVATIONAL AND SOCIAL COMPONENTS IN COMPENSATORY EDUCATION PROGRAMS—SUGGESTED PRINCIPLES, PRACTICES, AND RESEARCH DESIGNS[1]

Urie Bronfenbrenner, Professor of Human Development and Family Studies, New York State College of Human Ecology, Cornell University, Ithaca, N.Y.

I. THE PROBLEM

It is now generally recognized that the problems of the disadvantaged child cannot be viewed solely in terms of impaired intellectual functioning. Such a child has been deprived not only in cognitive development but in development across the board, including the motivational characteristics and patterns of behavior that permit successful and satisfying participation in the larger society. Among these are the development of a sense of control over one's environment, the capacity to defer immediate for later gratification, skills in working cooperatively with others, patterns of socially responsible behavior, and techniques for non-destructive resolution of personal and interpersonal problems. Unless the disadvantaged child is given the chance to develop these qualities as well, even the acquisition of cognitive competence may still leave him incapable of functioning as a productive, cooperative member of the community, for whom he remains an economic and social burden, if not a physical threat. Moreover, many of these motivational qualities and modes of response are essential for a child to be able to learn in school or to use and further develop such cognitive abilities and skills as he already possesses.

For these reasons, *any program seeking to meet the educational needs of disadvantaged children must address itself not only to the development of cognitive competence but also of patterns of motivation and behavior appropriate to a productive, cooperative society.*

The present paper examines the possibilities for implementing this broadened objective in the light of available evidence from research in child development and related fields. It seeks to identify the major principles underlying methods for developing constructive motives and behaviors in children, to illustrate how these principles might be applied in practical educational programs, and to call attention to possibilities and problems of research design for evaluating the effectiveness of particular procedures.

Our focus on the motivational and social components of compensatory programs should not be construed as reflecting reduced priority for purely cognitive concerns. Rather cognitive, motivational, and social aspects are seen as complementary and essential to one another. Thus the principles and procedures here proposed are intended to be combined with and to reinforce the effectiveness of more traditional, instructional aspects of educational programs.

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[1] The ideas expressed in this working paper represent the implications for educational practice, as the author sees them, of recent research by a number of different investigators on the role of social factors in psychological development. For references to and discussion of the original studies on which this paper is based, see Bronfenbrenner, U. 1967.

The author has also drawn heavily on his experience as a member of the Planning Committee and of the Research Advisory Board for Project Head Start.

II. PRINCIPLES AND POSSIBILITIES

A review of the available research evidence in child development, social psychology, and related fields points to several general forms of environmental intervention which appear to be especially effective in influencing the behavior and development of children. These forms, which are closely interrelated, are conveniently discussed under five general headings: A) The Potency of Models; B) Social Reinforcement; C) Intensive Relationships; D) Group Forces; and E) Superordinate Goals. Under the first two headings, we describe briefly some basic processes involved in influencing the behavior and development of the child. Under the last three headings, we examine the social contexts in which these processes can be most effectively evoked and maximized.

A. *The potency of models*

The implications of contemporary research in this area can be summarized in six general statements:

1. Behavior change can be facilitated by placing the child in an environment in which he is exposed to models exhibiting the desired behavior pattern at a level which the child can emulate with some degree of success.

2. The model can influence the child's behavior in two ways:

(*a*) By doing something which the child has never experienced before, thus inducing him to engage in new patterns of behavior.

(*b*) By doing something already in the child's repertoire, thus inducing him to engage in this particular behavior rather than in some other activity.

In terms of its long range impact on the child's behavior and development, the second of these influences is perhaps even more important than the first.

3. The potency of the model to induce behavior is considerably enhanced when the persons exhibiting the behavior are people with whom the child feels a strong emotional involvement, in particular his parents, playmates, and older children or adults who play a prominent role in his everyday life.

4. Although mere exposure to the model exhibiting a new pattern of behavior can lead to the induction of that behavior in the child, the optimal condition for learning from a model is one in which the child is engaged in increasingly more complex patterns of reciprocal interaction with the model—for example, conversation that gradually invokes wider vocabulary and complexity of structure, games involving progressive development of basic skills, etc.

5. The inductive power of the model increases with the extent to which the model is perceived as having high status and control over resources. For example, experiments have shown that children are more likely to emulate a person who can grant presents or privileges than one who is the recipient of such benefits.

6. The inductive effect increases markedly when the behavior in question is exhibited not merely by a single individual but represents a salient feature in the actions of a group of which the child already is or aspires to be a member. Thus the child will tend to adopt patterns of behavior that are prominently engaged in his family, by his classmates, the neighborhood gang, older children whom he admires, etc.

Before examining the implications of these principles, it is useful to acquaint ourselves with a second, closely related strategy for evoking behavior change which does not require the presence of an external model although it can use such models to great advantage when they are available. In effect, this strategy uses the child's own behavior as a model to be improved upon through intensification and further development of that behavior.

B. Social reinforcement

Other people can influence the child by serving not only as models but as reinforcing agents; that is, by giving affection, approval, or providing some other gratifying experience when the child exhibits the desired behavior, (even if only in crude form), it is possible to increase the frequency and precision of that behavior on the part of the child. In recent years psychological research has revealed that the range and variety of stimuli which can serve as reinforcers for a child extend well beyond conventional conceptions of reward or approval. For example, investigators have demonstrated that vocalization in infants can be significantly increased by such seemingly inconsequential acts as a smile, a touch of the hand, a movement of the head, or a barely audible clucking noise. It is significant that these are precisely the ways in which mothers, and other persons dealing with young children, have responded from time immemorial to spontaneous activities on the part of their charges, *provided the situation permitted dealing with the child on a one-to-one basis thus permitting frequent selective responses on the part of a reinforcing agent.*

As in the case of modeling, the potency of reinforcement is increased as a function of the child's emotional attachment to the person giving the reinforcement, so that once again the child's parents, friends, and intimate associates emerge. at least potentially, as the most important agents for motivating the child's behavior and development. And again as in the case of modeling, the potency of the reinforcing agent increases with the extent to which he is perceived as having high status and control over resources.

But it is where reinforcement can be combined with modeling that it can have its maximal impact. One way of exploiting this joint effect is to employ reinforcing stimuli which simultaneously serve as models of the behavior to be learned. Thus one of the most efficient procedures for developing the young child's capacity for communication is to respond to his spontaneous utterances with ordinary conversation at gradually increasing levels of complexity.

In the preceding example, the model and the reinforcer are the same person. But once a child becomes conscious of his social world, still another advantageous mix of these two strategies becomes possible. This is the technique of so-called vicarious reinforcement in which the person reinforced is not the learner (i.e. the child) but the model. Researchers have demonstrated, for example, that rewarding the model for exhibiting a particular behaviour pattern increases the frequency of that behaviour in a child observing the model. In addition, the reinforcing power of the model is also enhanced. In other words, if we wish to maximize the development of a particular skill or behavior in the child, we do well to reinforce not only the child himself, but also the models manifesting the desired behavior, who in turn would also reinforce the child.

We see here an illustration of the special leverage provided by a cooperative effort, that is, a group process, in producing behavior change, a topic to which we shall return shortly. But first we must take note of a possible problem in the use of reinforcement as a technique for facilitating learning.

Effective reinforcement requires discrimination on the part of the reinforcer. His response must be contingent upon manifestation of the desired behavior on the part of the child. If he rewards the "wrong behavior" or if he simply provides generalized gratification unrelated to particular activities of the child, there will be no increase in the desired behavior. As we shall see, this lack of appropriately discriminating response presents a problem in the everyday world of the disadvantaged child, but also suggests possibilities for counteractive measures.

The foregoing comment calls attention to the importance of social context for the effective operation of such processes as modeling and reinforcement. We turn next to a consideration of this problem.

C. Intensive relationships

In our discussion both of modeling and reinforcement we noted that the most potent agents for each of these processes were persons with whom the child has developed intensive and enduring relationships: typically his parents, relatives, and other persons, both children and adults, with whom he becomes closely involved on a day-to-day basis. We consider next some evidence bearing on this issue and its implications for educational practice.

There is a substantial body of data demonstrating the powerful effect of parents as models in shaping the behavior and psychological development of the child. The evidence is as eloquent in negative as in positive instances. Thus the difficulties of the disadvantaged child upon entry into school have been traced by a number of investigators to lack of stimulation, both cognitive and motivational, in his home environment. But, at the same time, other studies show that where conditions permit forming and maintaining an intensive relationship with the child, even a presumably inadequate mother can do a great deal for the development of a seriously deprived child. The most dramatic evidence on this score comes from Skeels' remarkable follow-up study of two groups of mentally retarded, institutionalized children who constituted the experimental and control groups in an experiment which Skeels had initiated thirty years earlier. When the children were three years of age, thirteen of them were placed in the care of female inmates of a state institution for the mentally retarded, with each child being assigned to a different ward.

A control group was allowed to remain in the original, also institutional environment—a children's orphanage. During the formal experimental period, which averaged a year and a half, the experimental group showed a gain in IQ of twenty-eight points (from 64 to 92), whereas the control group dropped twenty-six points. Upon completion of the experiment, it became possible to place the institutionally-mothered children for legal adoption. Thirty years later, all thirteen children in the experimental group were found to be self-supporting, all but two had completed high school, with four having one or more years of college. In the control group, all were either dead or still institutionalized.

Other studies, less dramatic but with larger samples, point to similar conclusions. For example, shifting attention from the mother to the father, a number of widely scattered investigations, both in this country and abroad document the debilitating effects of father absence on the psychological development of children, boys in particular. In general, frequent or total absence of the father appears to contribute to low motivation for achievement, inability to defer immediate for later gratification, low self-esteem, susceptibility to group influence, and juvenile delinquency—an array of problems highly characteristic of the disadvantaged child.

Regrettably little work has been done on the specific influence on the child's behavior and development of other family members or intimate associates—such as a sibling, grandparents, close friends, or older children and adults. But there is every reason to expect that their potency as models or reinforcers will be a direct function of the intensity of the child's association and emotional involvement with them.

The foregoing discussion carries a number of provocative implications for compensatory programs. To begin with, it suggests that insuring a high level of expertise in the persons dealing directly with the child may not be as critical for furthering the child's psychological development as creating possibilities for those who are potentially the most powerful influences in the child's life, his parents, friends and immediate associates, to realize their potential.

Putting the issue in this way makes clear that the matter is not so simple. Some level of "expertise" on the part of the "teacher" is obviously essential if the child is to learn the skills, behaviors, and motives necessary to cope successfully with his environment. It is precisely these skills, behaviors, and motives that must be exhibited in the behavior of the persons surrounding the child and be reinforced by them. And the research ordinance indicates that this is precisely what *does not happen* in the day-to-day world of the disadvantaged child. His parents and other intimate associates typically do not exhibit an adequately high level of the behaviors and motives which the child most needs to learn. Nor do they sufficiently often reinforce such behaviors when they are exhibited by the child or by others in his environment. It is not that the disadvantaged child receives insufficient attention from his parents and other close associates, but that this attention is not appropriately discriminating. Often it is so generalized and diffuse as to have no impact in selective reinforcement; on other occasions it is differentially responsive not to the expressions of the child's constructive capacities (e.g. exploratory behavior, vocal expressiveness, curiosity) but his passive reactions (praising him when he is quiet or inactive) or disruptive behavior (e.g. paying attention to the child principally when he is "making trouble").

This brings us to an important question. Is the problem that persons in the day-to-day environment of the disadvantaged child *cannot* engage in behavior appropriate to his needs because they lack the requisite ability or skill? Or are they capable of such behavior but simply do not engage in them because they are not motivated to do so?

Undoubtedly both considerations are operative to some degree, but the available evidence suggests that the second factor is much more important than the first. For example, we read in Skeels' account that the mentally-retarded "mothers" in the institution "spent a great deal of time with 'their children', playing, talking, and training them in every way. The children received constant attention and were the recipients of gifts; they were taken on excursions and were exposed to special opportunities of all kinds." Nor were the mothers themselves without models and reinforcers, for the ward attendants also spent "a great deal of time" with the children, and the matron in charge introduced "new play materials, additional language stimulation," and other special experiences.

In other words, given motivation, opportunity, and exposure to the kinds of activities that are enjoyable and instructive for young children, parents and other close associates of children from disadvantaged backgrounds can do a great deal to further the psychological development of the child in their midst.

There is a second and even more compelling reason for actively involving parents and other persons close to the child in the compensatory program. We have noted that models are influential not only in instigating new behavior patterns but also in determining which patterns already in the child's repertoire are activated and maintained and which are allowed to become extinguished. As the most powerful models for the child, parents and other intimate associates thus become not only the most important potential agents for bringing about change in the child's behavior, but also the principal figures who maintain established patterns of activity (whether adaptive or non-adaptive), and who, insofar as they fail to expose the child to constructive experiences, prevent him from realizing his full potential. In short, it is the parents and other close companions of the child who are the primary determiners not only of what the child learns, but what he fails to learn.

It follows that *any appreciable, enduring improvement in the child's development can be effected only through an appreciable enduring change in the behavior of the persons intimately associated with the child on a day-to-day basis.*

How can such a radical change be brought about? For answers to this question we turn to a second kind of social context in which the processes of modeling and reinforcement can thrive—namely, a structure extending beyond an intensive relationship between two people to include groups of persons sharing a common identity.

D. Group forces

There are two ways to effect a change in the behavior of persons in the child's environment. The first, and clearly the more difficult, is to try to modify the actions of those who constitute the principal figures in the child's world as it already exists. The second is to introduce into that environment persons who can serve as appropriate models and reinforcers, and who stand some chance of being able to develop an enduring, intensive relationship with the child. The most obvious person who comes to mind in this second connection is the teacher. It is, of course, possible for a teacher or other specialist to establish a personal relationship with a child, but in a large class, such possibilities are limited, and even when they occur, there are usually other persons in the child's life who have greater weight, particularly in their collective impact.

But the teacher and her associates are not the only important figures in the child's school experience. There are also his classmates, and recent research indicates that these have far greater consequence for the child's development—intellectual, emotional, and social—than we have hitherto recognized. For example, the Coleman report revealed that how well a child did in school depended less on educational facilities or qualifications of the teacher than on the characteristics of the child's schoolmates; i.e., their abilities, interests, and aspirations. Subsequently, a further analysis of national survey data, cited in the 1967 Report of the U.S. Commission on Civil Rights, showed that the beneficial effect for a disadvantaged child of being in a class with non-disadvantaged pupils increased substantially with the proportion that such non-advantaged represent of the class as a whole. Thus those disadvantaged children who were gaining the most academically were attending classes in which the majority of pupils came from white middle class families. Moreover, these gains were substantially greater than any attributable to teacher characteristics or quality of instruction, a finding which led the authors of the report to conclude that "changes in the social class or racial composition of schools would have a greater effect on student achievement and attitude than changes in school quality." (p. 100)

This conclusion provides but one illustration of the power of a group to modify the behavior of its members. Even though each classmate taken alone presents a less accurate model of the behavior to be learned and is a far less-skilled and less-motivated instructor than the teacher, the cumulative beneficial effect of being in a classroom with able, motivated pupils is substantially greater than what can be achieved by a single teacher. This result comes about not only because other class members serve as models and reinforcers of good performance but also because the child's dependence on the group, his desire to belong, serves as an additional motivating factor to behave like the others.

But what if the others are not performing or behaving very well? The processes of modeling, reinforcement, and group pressure for conformity are no less efficient. Non-adaptive or anti-social behavior is as readily communicated as competence or constructive action. For example, contrary to the great conclusion reached by Coleman, Pettigrew (1967), in a special re-analysis of some of Coleman's data, shows that white children in predominantly Negro schools perform on the average below comparable white children in predominantly white schools; furthermore, "those white children in predominantly Negro schools with close Negro friends" scored significantly lower on tests of verbal achievement than white pupils in the same school without "close Negro friends."

Analogous effects are being found in the sphere of social behavior as well. In a study still in progress involving forty sixth grade classrooms in a large city, we find that the willingness of the rest of the class to engage in anti-social behavior (such as cheating on a test) is significantly increased by the presence of a small lower class minority (in this instance almost all white).

In other words, a strategy that relies principally on introducing into the world of the disadvantaged child middle class models from whom he can learn runs the risk that these models themselves may be adversely affected by the experience, not only in terms of lowered academic achievement but also increased anti-social behavior. In short, social contagion is a two-way street.

The consequences of this proposition turn out to be equally troublesome as we return to a consideration of the already established social environment of the disadvantaged child—his family, friends, older companions, etc. As a concrete example, let us consider a virtually untapped resource in compensatory programs, the use of older children from the neighborhood as tutors, escorts, play supervisors, etc. Although teen-agers from disadvantaged backgrounds exhibit some behavior (e.g. use of words in sentences) which the deprived child needs to learn, much might also be learned that would be negative in its impact, not only in the cognitive but even more in the emotional and social spheres. Similar considerations apply to the other actual and potential models from the child's day-to-day world. The amount of assimilable, competent or constructive behavior which they typically exhibit may be far too small, and heavily outweighed by nonconstructive or even negative elements.

Fortunately, what is typical is not thereby inevitable. In the case of older children and adults, where some competence and capacity for constructive action already exist within the behavioral repertoire, it is possible to increase substantially the amount of such behavior that is actually exhibited by structuring the social situation so that it invites and demands such behavior. Contemporary research suggests that such a change can be accomplished by utilizing the motivating power of what Muzafer Sherif has called "superordinate goals."

E. Superordinate goals

In the *Robber's Cave Experiment* Sherif demonstrated that it was possible to take groups of normal middle class twelve-year-old boys and, within the space of a few weeks, bring about a series of contrasting changes in their behavior. First he transformed them into hostile, destructive, anti-social gangs. Then, within a few days, they were changed into cooperative, constructive workers concerned with and ready to make sacrifices for other members of the community. Sherif's principle for bringing about this second, constructive change was involvement in what he called a superordinate goal—an overriding problem extending outside the individual himself and requiring coordinated effort for its solution. For instance, shortly after hostile and destructive activities had reached their peak, Sherif announced to the boys, who were at a camp, that there was a leak somewhere in the water line and there could be no fresh water until the leak was found and repaired. Hatreds and hostilities were forgotten as the entire camp population cooperated to solve the problem.

An example directly relevant to our concerns comes from a Head Start Program operating in an urban slum. The problem was getting children to and from the center in a "tough neighborhood." Since not enough parents were available at the needed hours, the staff turned for help to the local gang—the Golden Bombers. The resulting operation was a sight to behold as twice every day the Bombers, in "snap formation" proudly conducted their charges through heavy traffic with "complete protection." What is more, after seeing what was going on at the center, they volunteered to help by reading to the children, taking them on outings, etc.

The power of superordinate goals in mobilizing constructive group activities is also reflected in the success of Skeels' experiment. It was not only the intensive relationship between the child and his mentally retarded "mother" that is to be credited for bringing about the striking changes that occurred. As Skeels takes pains to point out, with the appearance of a young child needing care, not only each ward, including inmates, attendants, and head matron—but the institution as a whole became involved in the enterprise (e.g. "there was considerable competition among wards to see which one would have its 'baby' walking or talking first.")

Indeed, we can now recognize that Skeels' experimental treatment involved all of the elements we have discussed as most potent for facilitating constructive behavior and development in children; that is, the modeling and reinforcement made possible by an enduring intensive relationship are enhanced by group commitment to a common superordinate goal—caring for a little child.

It is the utilization of precisely this same superordinate goal which, in our view, offers the greatest promise for the design of effective compensatory programs. In our discussion up to this point we have repeatedly been confronted with the same problem: how to "turn off" the predominantly negative and counter-productive behaviors often exhibited by the most significant persons in the life of the disadvantaged child and to evoke, in their place, constructive behaviors of which these persons are actually capable. We now see that superordinate goals have the power of effecting exactly this kind of behavior change. Specifically, involving persons actually or potentially important to the child in pursuit of a superordinate goal can have the effect of maximizing the incidence and inductive power of constructive behaviors and motives while reducing disruptive and negative influences.

But is it possible to find a concrete superordinate goal that would have appeal for persons in the child's own environment and at the same time cut across such demonstrably divisive barriers as age, class, and color? We believe that such a common, potentially-strongly-motivating concern exists. That focus is the young child of poverty, whose need for help speaks out eloquently to all who see him. In other words we are proposing that if we turn to any existing or potential segment of this child's world, be it his immediate family, his actual or possible classmates, older children or adults from his own neighborhood or from the other side of the tracks, and ask their cooperation in activities in behalf of the child, such cooperation will be given competently and conscientiously, provided that the nature of the requisite activity is clear and lies within the capability of the individual or group of whom it is requested. Moreover, the beneficial effect of such cooperative effort will be reflected not only in the child who is its target but also in behavioral and motivational changes in those who participate in the effort, the so-called advantaged no less than the disadvantaged. For though contemporary American middle class society and its children are not suffering effects of cognitive deprivation, they are by no means free from a variety of social and emotional ills, prominent among which are problems of apathy, alienation, and anti-social behavior.

III. CONCRETE PROPOSALS

We have now come to the point where we can suggest concrete proposals consistent with the principles outlined above. In connection with each proposed measure, we shall also comment on implications for research design.

Proposals are conveniently described under five headings representing the major contexts in which the child lives and, consequently, with which any appropriate intervention program must be concerned: A. Classroom, B. School, C. Family, D. Neighborhood, E. Larger Community. The order is not one of priority but simply of convenience for discussion.

A. The classroom

In its customary form, the classroom contains two major sources for influencing behavior and development—the teacher and the children themselves.

1. *Potentialities in the Teacher's Role.*—Our discussion implies a broadened conception of the teacher's role. Not only must she herself function as a motivating model, but it becomes her responsibility to seek out, organize, develop and coordinate the activities of other appropriate models and reinforcing agents both within the classroom and outside. How this might be done will become apparent as we proceed.

There remains to note certain variations in the teacher's role which have been much talked about as beneficial to the disadvantaged child but still lack systematic evidence for their actual effectiveness. We refer here to the assertion that disadvantaged children are helped when their teacher is from a similar cultural background, same race, and, in the case of boys especially, same sex. It would be a simple matter to employ a research design in which such factors were counterbalanced so as to permit evaluation of the independent contribution of each to a variety of dependent variables including not only intellectual achievement but also motivational variables such as self-esteem, fate control, helping behavior, etc. Furthermore, as a way of gauging the relative importance of social vs. intellectual characteristics of the teacher, it would be useful to include in the design measures of the teacher's cognitive competence (e.g. verbal achievement).

We defer consideration of the role and possible effect of other adult personnel in the classroom (e.g. parent volunteers, non-professional aides), since they are treated under subsequent headings.

2. The Socio-motivational Structure of the Classroom.

This is one of the most promising and least exploited areas for exploitation. Two types of innovation are usefully distinguished: variations in *classroom composition* and in *motivational structure.*

(a) *Classroom composition.*—To date variations have been examined or proposed primarily in terms of such gross demographic characteristics as social class and race. Although the evidence is persuasive that the most advantageous situation for the disadvantaged child is to be in a classroom with an advantaged majority, many important questions remain unanswered. To identify but a few:

(1) All of the studies to date have been retrospective. Thus there remains the possibility that the observed results are a function of preselection (e.g. disadvantaged pupils attending majority-advantaged classes are initially superior to their so-called matched controls in majority-disadvantaged classes.) The confounding can be clarified only in an experiment permitting random assignment of disadvantaged children to one or another setting.

(2) It is not clear whether the determining variables in these grouping effects are primarily social or cognitive. In other words, it is important that the majority actually be white and middle class, or simply, that most of the children exhibit good language skills, work habits, etc. Resolution of this ambiguity would require a rather complex matching design.

(3) In none of the studies to date has adequate attention been paid to differential effects associated with the sex of the child. Are boys and girls equally affected? Does it make any difference whether classes are segregated by sex? Does the sex of the majority matter? All of these questions are of practical importance in view of the special vulnerability to the effects of poverty of the Negro male child and the superior status of the female.

(b) *Motivational structure.*—Although modifications in classroom competition can be expected to make a significant contribution to the development of the disadvantaged child, they by no means represent the most powerful resources at our disposal. Indeed, their potential is realized only to the extent that they facilitate development of the motivating processes (modeling, reinforcement, group commitment, involvement in superiordinate goals, etc.) which were outlined in the first section of this paper. Such development need not be left to chance. It can be directly fostered through setting up within the classroom the kinds of social and situational structures in which these processes thrive. This includes such devices as teams, group competition, organized mutual help patterns, etc., including the incorporation into such social units of different mixes of race, social class, sex, achievement level, and the like. The power of the group, including the children's group, in motivating goal-directed activity in its members is well established in American social research, but the practical implications of this principle for education have thus far remained unexploited in this country. Where practical applications have been made on a broad scale, as in the Soviet Union, the effects have been impressive (see Bronfenbrenner, 1962, 1967a), but unfortunately they continue to be justified primarily on an ideological rather than an objective, empirical basis. It, therefore, remains for American educators and social scientists to reap the fruit of systematic application and evaluation of such promising innovations.

The problem, in terms of research design, is to avoid confounding among the many obviously relevant variables and manipulations. Under these circumstances, the strategy of choice is to begin with one or two variables, reserving complex interactions for later stages of experimentation. For example, one might start by examining the effectiveness of two-pupil teams of children of heterogeneous ability designated as partners or playmates and compare their progress with unpaired individuals or members of homogeneous pairs. Another possibility might focus on testing out the potency of group reinforcement by introducing into designated experimental classrooms such "customs" as group applause for correct answers, selection and honoring by classmates of members showing greatest individual progress, etc.

The potential of motivational structures will remain unplumbed and probably seriously underestimated so long as the participants in such structures are limited to the members of the conventional classroom with its homogeneous age grouping. Full exploitation of the possibilities of motivational structures can occur only when one can move beyond the classroom into the larger contexts of school and neighborhood.

B. The school

Extending available resources to include the school as a whole permits drawing on other teachers, and staff members as well as pupils from other age groups as cooperators in the educational enterprise.

The utility of other teachers is limited but important. Probably the most promising possibility in this regard is the principle of continuity in personnel from one level or year to the next. Thus it may be especially important for the child's Head Start teacher to be able to continue on with him as he moves into kindergarten or first grade, especially during the first few weeks. Similar continuity in transition may be desirable during the first few weeks of each promotion. Since such continuity is likely to be possible for only a portion of the children in the class (some children having had another teacher the previous year), this circumstance could be exploited as a "natural experiment", although care would have to be taken to avoid confounding factors (such as a control group composed of children newly moved into the community).

An even more promising possibility which the total school offers in furthering the development of the child is the active involvement of older and, subsequently, younger children in the process. For the preschooler or primary-grader, an older child, particularly of the same sex, can be a very influential figure particularly if he is willing to spend time with his younger companion. Except for the occasional anachronism of a one-room school, this potential resource remains wholly unexploited in American education and, for that matter, in the process of general socialization as it usually takes place in our country. Opportunities for experimentation are therefore legion. One might begin with the practice followed in certain other countries of the world in which each preschool or primary class is placed under the "patronage" of an older class, with each little child being assigned an older "brother" or "sister" from the more advanced class. It becomes the responsibility of each older brother to get to know his younger "sib", and his family, to escort him to and from school, play with him and his friends, teach him games, and last but not least, become acquainted with his progress and problems in school, reading with and to him, helping and encouraging him to learn. In the meantime the patron class as a whole organized activities for their "ward class", including trips to athletic events, nature walks, camp-outs, museum visits, etc.

The foregoing examples illustrate how an enduring social situation can be created which simultaneously exploits all of the motivating process and social structures outlined earlier, for here the effects of modeling and reinforcement are enhanced in the context of intensive relationships, group membership, and common commitment to a superordinate goal.

An extension of this same principle points to the most important potential contribution of the school as a whole to the development of the disadvantaged child. Within the formal educational context, the school is the social unit with which the child, and those concerned for his welfare, can most readily identify. If the school as a total community becomes visibly involved in activities focussed on the disadvantaged child and his needs, if older children, school organizations, other teachers, school administrators, PTA's, if all these persons and groups in some way participate in the program and publicly support those most actively engaged in the effort, the reinforcing effect increases by geometric proportions. Conversely, if the program is confined to an isolated classroom, it is not only deprived of powerful reinforcing influences but risks the danger that the rest of the school, especially children in other classes, will perceive the "special class" in invidious terms (e.g. "the dummies") and treat its members accordingly. In this way the powerful influences of modeling, negative reinforcement, and group pressure act further to undermine the already unfavorable self-image of the disadvantaged child.

Similar considerations dictate the necessity of involving the child's family in the school's total educational effort. Before turning to this topic we call attention to a serious problem of research design in evaluating the effect of salient innovations such as those affecting an entire school. Their public and often dramatic character invites diffusion of the experimental treatment into control group schools when these are located in the same or neighboring communities. The danger remains even when the control schools are carrying out equally dramatic alternative models, for so long as communication channels exist, there is the tendency for each group to be influenced by the other, thus decreasing the difference between them. One obvious solution for this problem is to set up experimental and control groups in similar communities that are far apart or in little contact with each other. Another less satisfactory device is to employ a sequential design with the control period preceding introduction of the treatment.

C. The family

Today's Head Start programs typically profess strong commitment to the principle of family involvement, but in practice implementation is limited to two rather restricted forms: the first is the inclusion of some parents on the program's advisory board; the second involves meetings for parents at which staff members make presentations about some aspects of the program. Both of these measures have the effect of bypassing the most important aspect of family involvement—engaging parents and older children in new and more mutually rewarding patterns of interaction with their children.

An essential first step in bringing about such changed patterns of interaction is exposure of the parent and other family members to them. This can be done at one of two places—at the center, or in the home. The basic approach is one of demonstration—showing the family the kinds of things that are done at the centers, which also happen to be things that family members can themselves do with the child—e.g., games to play, books to read, pictures to look at and talk about, etc. Particularly valuable in this connection are activities that involve and require more than one person in patterns of interaction with the child; that is, not just the teacher (i.e., mother) but also other adults and older children (i.e., father, grandma, brother, sister). A useful technique is to ask the visiting or visited family members to help in carrying out particular activities with the child. It is important that the activity not be seen as a lesson in which the child must learn something and deserves punishment for failure, but instead simply as an engaging activity in which learning is incidental to a total gratifying experience.

To facilitate the involvement of parents in such non-school-like educational activities, it is desirable to provide a liberty consisting not only of books but also of toys and games which require the verbal participation of adults and older children, and which can be borrowed for home use for extended periods of time.

Given the evidence for the importance of an intensive, enduring relationship for the development of the young child, it would seem desirable to encourage the formation and maintenance of such relationships and, if possible, evaluate their independent impact. The principal pitfall in this kind of research is the danger of sample bias; that is, mothers who are willing to cooperate in such an endeavor are likely to differ in many important respects from those who, for one reason or another, do not or cannot take part. An appropriate design would therefore require employing two similar but separate groups of mothers and making a special effort with one of these groups to encourage the development of intensive mother-child relationships.

Another challenging area for experimentation and research, subject only to sporadic efforts to date, is the independent contribution to the child's development of involving particular members of the family besides the mother, most notably the father, but also older siblings, grandparents, relatives, etc.

In all research on the effects of family involvement, the primary focus becomes the study of changes in patterns of interaction between family members (especially parents) and the child, and the impact of these changes on the latter's psychological development—social and emotional as well as cognitive. Even so crude a measure as the amount of time which various family members spend in direct interaction with the child might prove indicative of behavioral change. More instructive, however, in illuminating the nature of the changes taking place would be a series of standardized experimental situations. administered at intervals of several weeks or months, in which the child would be presented with various "problems" (e.g. toys, games, tasks to accomplish) in presence of members of his family. The focus of observation would be not only the behavior of the child himself but equally the reaction of family members. Do they ignore, discourage, encourage, approve, help, or take over and do it themselves? Changes over time in reaction of family members could be studied both as a dependent variable (i.e., a function of the program being conducted with the parents) and as an independent variable (a factor affecting the behavior and psychological development of the child).

In addition to presenting problems of research design, family involvement poses a difficult dilemma to professional staff. On the one hand, there is the need to expose parents and other family members to new or different ways of dealing with their children. On the other hand, this must be done in such a way as to enhance rather than lower the power and prestige of these persons in the eyes of the child. The second requirement arises from the evidence that the inductive and reinforcing capacity of a model varies directly with the model's status, command over resources, and control of the social environment. An ingenious demonstration of how this dilemma may be resolved was observed at an all-Negro Head Start and Follow Through program in the rural South. Since the local, white dominated school administration refused to have anything to do with the program, it was organized by Negro church groups under the leadership of an 86-year-old minister. Several days before the official opening of the program, this man invited all the parents and teen-agers to an orientation meeting—a pass-the-dish picnic in a nearby forest area (a forest which he himself had "planted" years ago with seeds obtained free from the U.S. Department of Agriculture). After the picnic, the minister offered to take the whole group through a tour of the forest. During the walk he would ask adults and teen-agers alike to show him interesting plant and animal life which they observed; give names of flowers, trees, and birds; explain how plants grow, what animals feed on, etc. While drawing out much information from the group, he also added considerable material from his own experience.

The turn-out on Saturday was impressive, and so was the performance of the "instant experts."

D. Neighborhood

The foregoing example also illustrates in dramatic fashion the reinforcing potential of the other people with whom the child frequently associates and identifies—his neighbors. These persons, particularly the adults, and older children who are looked up to and admired by the young, probably stand second only to parents in terms of their power to influence the child's behavior. For this reason it would be important for some Follow-Through programs to try to exploit and evaluate this potential in a systematic way. The most direct approach would be to discover from the families and the neighborhoods themselves who are the popular and admired individuals and groups and then to involve them as aides in the program. It may often be the case that the activities in which such individuals or groups normally engage, indeed, the activities for which they are popular, are not those which one would want children to learn about or adopt. This fact should receive due consideration but it should hardly be the determining factor, since the behaviors that matter are those that the model exhibits in the presence of the child. It follows that the activities in which such persons engage as aides, volunteers, etc., must be constructive in nature and reinforce other aspects of the program. They may take a variety of forms: supervising and playing games, exhibiting or teaching a hobby or skill (whittling, playing a musical instrument, magic tricks, etc.). The significant factor is that the activity be seen by the child as part of and supporting all of the things the child is doing "in school."

A second important use of neighborhood resources involves exposing the child to successful models in his own locality—persons coming from his own background who are productive members of society—skilled or semi-skilled workers, teachers, government employees, etc. Providing opportunities for such persons to associate with the children (e.g., as escorts, recreation supervisors, part-time aides, tutors, etc.), tell something about their work, and perhaps have the children visit the person at work can help provide a repertoire of possible occupational goals unknown to many children of poverty today.[3]

But how can one secure the participation of people from the neighborhood or across the tracks in spending time with young children? Experience suggests that the problem may not be so difficult as it appears. An announcement in the newspaper, on store bulletin boards, or simply by word of mouth that people are wanted after school or on weekends who like to do things with kids and have something to offer, like a skill or hobby which children will find of interest, is likely to produce more volunteers than are needed. Of course some screening and supervision will be necessary, but a feasible program can readily be developed.

As the foregoing examples clearly indicate, many of the activities that are desirable in a Follow-Through program cannot be conducted only during school hours or solely in a school classroom. To begin with, if the program is to be effective it must influence the child's behavior outside of school as much as in school. Second, a school classroom does not lend itself to many of the kinds of informal activities involving parents, other adults, and older children which have been described above.

Accordingly, some kind of *neighborhood center* becomes a highly desirable feature of any comprehensive intervention program. Such a center would have to be open after school, weekends, and during vacations and would have some staff members on duty at all times. The center should be represented to the community not merely as a place where children go but rather where all members of the community go in the joint interest of themselves and their children. The neighborhood center might be housed in a school building, but, if so, facilities available should include other than traditional classrooms with fixed seats.

Since a neighborhood center is likely to be diffuse and highly variable both in its conception and execution, it poses problems in terms of a research design capable of measuring its generalizable independent contribution to children's development. To control for a generalized "Hawthorne effect" it would have to be compared with an active program similar in other respects but lacking the neighborhood center component. Moreover, to permit generalization, there would have to be more than one neighborhood center in the experimental sample. The magnitude and complexity of such a research operation argue for a more modest approach in which one attempts to evaluate not the global impact of the neighborhood center as a whole but of some specific component in its program; for example, the use of teenagers as leaders of activities for younger children.

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[3] In view of the frequency of father-absence among disadvantaged families and the predominance of female personnel in compensatory programs, the involvement of male adults and teen-agers is highly desirable and deserves systematic evaluation of its contribution to childrens' development, especially in the case of boys.

E. The larger community

The contribution of the total community to an intervention program is analogous to that of the neighborhood but now with representatives and resources drawn from the larger context. Use can be made both of older children and adults from middle class backgrounds provided they are not the only "competent" models on the scene, for without the example and support of "his own people" the child's receptivity to what may then be seen as an alien influence is much reduced. It follows that activities by persons or in settings from outside the child's subculture must be heavily interlaced with representatives from his own world who manifestly cooperate in the total effect. This in turn implies close working relationships of mutual respect between workers from within and outside the child's own milieu. Mutual respect is essential in these relationships not merely for the purpose of maintaining a viable learning atmosphere but more importantly to further the constructive development of the child's own sense of identity and worth as a person and as a member of society.

Finally, the most important significance of the total community for the disadvantaged child lies in the fact that many of the problems he faces and the possibilities for their solution are rooted in the community as a whole and are, therefore, beyond the reach of segmental efforts at the level of the neighborhood, the school, or the home. We have in mind such problems as housing, welfare services, medical care, sanitation, police protection, community recreation programs, and the like.

Given this state of affairs, it is a sobering fact that neither in our communities, nor in the nation as a whole, is there a single agency that is charged with the responsibility of assessing and improving the situation of the child in his total environment. As it stands, the needs of children are parcelled out among a hopeless confusion of agencies with diverse objectives, conflicting jurisdictions, and imperfect channels of communication. The school, the health department, the churches, welfare services, youth organizations, the police, recreation programs, all of these see the children of the community at one time or another, but there is nobody that concerns itself with the total pattern of life for children in the community—where, how, and with whom they spend their waking hours and what may be the impact of these experiences on the development of the child as an individual and as a member of society. An inquiry of this nature would, we believe, reveal some sobering facts which in themselves would suffice to generate concerted action. Accordingly, an important aspect of any intervention program at the level of the total community would be the establishment of a Commission on Children which would have as its initial charge finding out how, where, and with whom the children in the community spend their time. The Commission should include among its members representatives of the major institutions in the community that deal with children, but should also draw in businessmen, parents from all social class levels, as well as the young themselves, teenagers from diverse segments of the community who could speak from recent experience. The Commission would be expected to report its findings

and recommendations to appropriate executive bodies and to the public at large.

As an intervention program encompasses ever larger concentric contexts (classroom, school, neighborhood, community), the problems of research design become increasingly more complex. One can of course begin at a simple dichotomous level and compare outcomes in programs including active parent involvement with those lacking this component, or the impact of volunteers solely from the child's own subculture with those from middle class. But even in these seemingly simple designs, considerable attention will need to be given to possible confounding variables (such as different types of interaction engaged in by volunteers from different backgrounds) and expert research consultation will be required.

IV. SOME MAJOR COMPONENTS ON INTERVENTION

Programs: A summing-up

We are now in a position to identify the major social and motivational features which, in the light of this analysis, need to be represented in an experimental intervention program. In addition to more traditional and highly essential instructional aspects, such elements should include:

1. Provision for family involvement in activities of the program in school, in the neighborhood center, and in the home, with emphasis on direct interaction with the child and on the strengthening of enduring emotional ties between the child and the members of his family.

2. Under appropriate supervision, utilization of older children, both as individuals and groups, in activities with younger children both within and outside of school. Such activities might include reading to children, escorting them on outings, playing games, tutoring, sports, etc. In the course of these activities, the development of friendships between older and younger children should be encouraged.

3. Within the classroom and other children's groups, taking advantage of possibilities for heterogeneous grouping, arrangements for mutual aid, and group recognition and approval.

4. Establishing programs at the level of the school rather than the isolated classroom so as to be able to involve the entire school community—other pupils, staff members, administrators, etc., as participants and supporters of those most actively engaged in the program, especially the children themselves.

5. Bringing in persons from the child's own neighborhood, as well as other segments of the community who, by demonstrating their competence and concern, can present the child with appropriate models to emulate.

6. In general, employing the superordinate goal of concern for young children as a means for involving the entire community in an examination of the opportunities it offers to its children and of the ways in which these opportunities can be enhanced and extended to all children and their families.

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THE NEEDS OF THE ELEMENTARY AND SECONDARY SCHOOLS IN THE SEVENTIES

Harry S. Broudy, Professor of Philosophy of Education, University of Illinois, Urbana, Ill.

I

As the Congress addresses itself to the needs of the schools, it has to judge whether there are truly national problems in this domain and for which a national policy is needed, or whether school problems are so varied that their only common need is money. To me, at least, it seems evident that the mass production of things and ideas is the dominant theme of our culture; that its countertheme is the effort to prevent the extinction of the economically, politically, and morally free citizen. This is a national—perhaps a world—drama, and it defines the roles of all our institutions, including the schools. The issue for national policy is whether the schools as social instruments for mass education can minister to the diverse needs of individuals with respect to vocation, citizenship, and self-development, and whether they can do this as presently conceived and organized.

There are signs that make one wonder whether schools can survive what seem to be strong and contradictory pressures. That such a breakdown is a real possibility may be suspected from the growing polarization of teachers and other educational personnel, on the one hand, and taxpayers, on the other. The taxpayers are demanding tangible results in proportion to their investment, and some educational administrators have been co-opted to apply the cost-benefit concept to schooling. At the same time, the schools are being exhorted to individualize and personalize their instruction to fit the unique needs of pupils as persons. These are diametrically opposite demands. Efficiency in industry means using mass production techniques—expensive technology and breaking functions down into easily performed operations.

In the absence of such moves, increase of teachers' pay does not necessarily, or even usually, warrant an expectation of increased "productivity," any more than a rise in the cost of a haircut and appendectomies means "better" haircuts and appendectomies. Is there a way that mass production techniques could be used by the schools to "tailor make" instruction so that it will *not* turn out a uniform mass "product"? Considering the size of the school enterprise, is there, ultimately, a real alternative to the technological solution?

In order not to encourage simplistic answers that will cause more trouble than they cure and turn education into something that is not education at all, it is necessary to stipulate conditions that any systemic change in the school enterprise must satisfy—and the cost in dollars is only one and perhaps not even the most important condition.

II

The most important condition is that schools of the seventies can meet the demand of vocation, citizenship, and personal adequacy in the eighties and nineties.

Vocational demands

Extrapolating on current trends, it would seem reasonable to expect that in the eighties and thereafter vocational adequacy for most individuals will demand a high order of specialization in a fairly narrow function. The bulk of our population may hold jobs that require competence at a technician level and roughly two years of postsecondary schooling. I believe this is in line with some remarks made by former Secretary of Labor Wirtz to the effect that a minimum of 14 grades of schooling for vocational competence seems to be in the offing.

It would also seem to be desirable that this vocational training supplement as much of a 12-year program of basic studies as the pupil can take with any prospect of profit. The argument for this is three-fold: (1) technical training presupposes a high level of symbolic facility in language, mathematics, and science; (2) the probable need for changes in vocational careers puts a premium on the ability to retrain oneself fairly quickly, and general studies provide this flexibility, and (3) the need for workers under 18 will be decreased by automation.

Citizenship demands

Adequate citizenship in a technologically overdeveloped mass culture struggling to retain a democratic ethos makes inordinate demands on the individual for knowledge, commitment, and involvement. One has to know a lot about everything to be intelligent about anything. In 1962 only 13 percent of a national adult sample knew what the

European Common Market was (Hazel G. Erskine, "The Polls: The Informed Public," *Public Opinion Quarterly*, Winter 1962, p. 677). College seniors had more information on entertainment, sports, and brands of merchandise than about public affairs (Joseph E. Garcia, "Information of College Students on Current Affairs," *Journal of Educational Sociology*, October 1962, pp. 58–60).

As between omniscience and a sense of impotence, it is the task of education to teach those studies that enable the individual to interpret his world and his duties in it. If general education does not do this, it is difficult to imagine what will.

Personal development demands

In the eighties it can be expected that fewer people will find their full personal significance in work. We are in some danger of our population being divided into those for whom the job is everything (much to the distress of their families) and those for whom the job is no more than an unavoidable constraint. The majority will fall into the latter class. The latter group also can look forward to a shortened work week, and if they do not use the leisure for moonlighting, they will have to use it to fight off boredom. In this battle two resources will be available: one is commercial entertainment, hobbies, travel, and the other is a cultivated mind that uses leisure to cultivate itself further. For the first resource, the school is probably not essential; for the second it is indispensable.

To achieve a decent order of mental health and happiness, the citizen of the eighties, who will be in school during the seventies, had better strive to become more sensitive, more thoughtful, and more cultivated than his parent generation. To some the role of the school in this mission is to invite the pupil to interiorize the spirit of the "best that has been thought and said" in the sciences and the humanities about the human experiment; to others, the school is thought to have a more direct and concrete function, viz., to be the place where human relationships are practiced, as well as read about. The school in either or both of these roles will have to compete against drugs, bizarre attacks on the various establishments, and the random effects of the mass media.

III

If this diagnosis of the cultural demands of the future in which the graduates of the schools of the seventies are to live is plausible, then the following consequences for schooling seem indicated:

1. The minimal amount of schooling in general studies may approach 12 years for most pupils. This means a more uniform curriculum for the first 12 grades but a highly diversified set of opportunities for vocational education after the potentialities of the individual for profiting from the general studies are exploited to the maximum.

2. The more uniform the curriculum, the more varied will the ways of teaching it have to become in order to meet individual differences of many kinds, including differences of cultural background.

3. The school increasingly will have to take on the character of a human relations laboratory—something of a cross between a "teach-in" on current relevancies and a group therapy session where dialogue, the search for identity, and other personality problems are the order of the day.

The culture of the eighties, accordingly, will make exorbitant demands on the schools of the seventies. Can they hope to meet these demands with the resources one can reasonably expect to be available for the elementary and secondary schools? I think perhaps they might if we can solve the problem of finding two million or more classroom teachers who, almost literally, would qualify as all-purpose paragons.

The traditional pattern of instruction in our country has been to entrust a teacher with a class (in all subjects in the elementary schools and in one subject in the secondary school). This teacher is responsible for all aspects of the instructional process—conveying content, developing skills, modeling character—and to do all this while affording the pupil a modicum of affection, a sense of security, a wish to excel, and, above all, a desire to learn. This is the all-purpose paragon teacher. Inasmuch as these outcomes are numerous, diverse, and not always highly correlated, it is not surprising that most teachers fail to achieve any of them with all pupils or all of them with any pupils. Hence, it is an almost foregone conclusion that public schools will be thought "bad" and "disgraceful." Thus the Council for Basic Education and the Goodmans, Kozols and Co., condemn the schools with equal ardor, but for doing precisely what the other would like to have them do. The remarkable thing is not that teachers fail to come up to these fantastic expectations, but rather that they even try. A rough analogue to the illusory ideal of an all-purpose paragon for each classroom would be to imagine a hospital staff made up almost entirely of physicians or a factory staffed almost entirely by engineers. Horace Mann initiated a movement to "professionalize" teaching in normal schools by offering a combination of techniques and theory that is characteristic of education for any of the professions. The repudiation of the normal school and the teachers college by certain academics, the demand of administrators and prospective teachers for immediately usable techniques and rules, and impatience with theory—all have combined to make a shambles of the hope to elevate teaching to genuinely professional status.

Today, the majority of our teachers are intelligent lads and lasses who on their way through college accumulated, in addition to a collection of courses in the various disciplines, somewhere between 18 and 32 hours of "education courses," including practice teaching. Their technical training cannot compare with that of electricians or plumbers, and their investment in the study of education hardly warrants a claim to professional competence or responsibility. The teaching certificate is a girl's best friend, and a boy's standby against the day when he can make up his mind as to what he really wants to do. So, on the one hand, we build up enormous expectations from teachers, while, on the other, the preparation for teaching more and more approximates that of loosely organized apprenticeship training.

There have been many suggestions for coping with the manifest impossibility of staffing our classrooms with all-purpose paragons. Splitting off custodial and other noninstructional duties and handing them over to paraprofessionals is one; team teaching is another. These trends we can expect to continue in the seventies. Whether they will be a sufficient response is hard to say. My own skepticism is based on three considerations:

1. Most of the school time and effort, even in the seventies, will be expended in what might be called didactics, i.e., efforts to convey the contents of a subject such as geography, or to develop skills such as reading and computation. Reading, reciting, testing, remediating—these are the typical didactic activities. Any important breakthrough in increasing the efficiency of the school will probably have to occur in this area of didactics.

2. There is a radical change of pace between didactics and what might be called "encounter teaching," i.e., the dialogue, discussion, confrontation, between persons. Sometimes school subjects are relevant to these encounters; sometimes not. The greater encounter teachers—Socrates, Jesus, Buddha—were not concerned with teaching algebra and geography. Learning to live together, to have a decent set of values, to be a free person is not like learning algebra.

3. As long as we demand both kinds of competence from the same teacher, I believe we shall only be redoubling our efforts in behalf of an unrealistic goal.

Another alternative, therefore, is to replace the all-purpose teacher with three classes of personnel; (1) didactics teachers who will utilize the resources of technology and whose training will be that of a high-grade technician (possibly two years of postsecondary schooling) and (2) encounter teachers whose training in such fields as counseling, group dynamics, psychology, or social work will entail at least one year of work beyond the baccalaureate. However, we may find that experiences other than academic, for example, work with youth in the community, can qualify one for encounter teaching. Over both will be a third (3) class trained to the graduate level who are responsible for research, development and administration of programs in both didactics and encounter teaching. One would expect that the bulk of the teaching staff to be in class (1), and that class (3) would be far smaller than class (2).

Obviously this alternative presupposes a reliability and sophistication of programmed textbooks, computer-aided instruction, and other electronic aids that are not now a fact. Also the hardware must become far less expensive. Whether this will be the case by the seventies is far from certain, but I do not share the pessimism of those who hold that *in principle* educational technology is doomed to failure—if it is used to individualize *didactics* and especially the didactics of the basic content and skill subjects. In this domain most live teachers perform as very imperfect machines.

This is not the place to counter familiar objections to educational technology, but let it merely be stated that the major objections have to do with their inability to simulate the personal relations between teacher and child, and child and child. Somehow, the roles of the teacher as friend, parental substitute, motivator, "turner-on," and punisher are felt to be crucial, and it is argued that the machine cannot function in these roles. But on the other side, it is precisely this personalization of didactics that also gives the most trouble. Machines are not threatening in the ways persons often are.

Distinguishing didactics from encounter teaching might be expected to have the following consequences for the school system.

1. By improving the efficiency of didactics through technology and utilizing teachers at the technician level for most of the teaching func-

tions, we may be able to afford to employ a much smaller and relatively expensive cadre of encounter teachers and educational specialists.

2. We might be able to decentralize the didactics part of the instructional program by dispersing the learning consoles in various learning centers or even, in some cases, into the home. More school space might then be available for the kind of activities we have called encounter teaching but also for seminars, laboratory exploration, library research, etc.

In planning the strategy for a response to the needs of the schools in the seventies we would be well advised to distinguish the *ad hoc*, piecemeal, local, short-term remedies in which the educational literature abounds and into which our educational laboratories, research and development centers—not to speak of our educational industries—have invested most of their time, talent, and money from the systemic changes that would affect the basic structure of both the curriculum and the instructional staff of the public schools.

Long-term strategies, to be sure, involve us in risky guesses about the shape of the future. Nevertheless, education cannot avoid futurism, for pupils undergo its ministrations for more than a decade before taking their full part in adult life. This is a long lead time, and it is tempting for schoolmen to settle for the amelioration of the pinches and itches that each day brings.

This inevitably makes our schools anachronistic, for they are out of date if they are not at least a dozen years ahead of the times in which they are operating.

The analysis of the problem set forth in this paper is based on the hypothesis that a school system to function adequately in a technologically dominated mass society will have to alter a school structure that was eminently adequate for the rural or small town community culture on which our ideal of liberal democracy was built. It will, I believe, have to exploit modern technology, if the qualities of life we value in that ideal are to be preserved in a modern society.

ELEMENTARY AND SECONDARY EDUCATION NEEDS FOR THE SEVENTIES

Charles Burgess, Associate Professor of History of Education, University of Washington, Seattle, Wash.

Daniel Defoe touched one of the universals when he set Robinson Crusoe to the task of assessing his shipwrecked condition with a double-entry system of debits and credits. "What is the evil that has befallen me?" asked Crusoe. "What is the good?" Like Crusoe we add our own columns on American education. And like Crusoe, who frankly drew up the list to master his despondency, we often go through the exercise to cheer ourselves. We now ponder the needs of elementary and secondary education during the next decade with Defoe looking over our shoulders. Will our double-entry exercise create primarily an illusion of achievement? It should be an embarrassment to find that we have built but one more monument to social apologetics.

Carefully compiled ledgers of the blessings and troubles of contemporary American education are cumbersome with data and confusingly contradictory. By judicious selection we might still somehow cheer ourselves. Or with similar care we might well conclude that our schools and the heralded American faith in education are in a state of near collapse. Evaluation is inescapable. We rightfully demand an accounting. But what shall we measure? And against what standard shall we set it?

At best, we might find implicit consensus on such questions running through the several papers and hearings for the General Subcommittee on Education. For the moment, at any rate, I prefer to resist the presumptuous temptation to send down a detailed balance sheet from Mount Olympus. Although there are fresh and encouraging signs in education, I shall ignore them without the slightest intention of belittling impressive achievement or promising experimentation. And, in the same spirit, I shall omit direct references to the many glaring, serious flaws of contemporary education which unerringly depict our schools as instruments of dehumanization. In the following paragraphs I invite you to consider only two intimately related characteristics of American elementary and secondary education which I believe deserve most careful scrutiny and modification.

Compulsion in Education

I believe, in the first place, that the idea of compulsory education needs fresh appraisal; indeed, perhaps compulsion should be dramatically curtailed or eliminated altogether. The very thought of doing away with compulsory education might well sound so bizarre to one who hears it expressed for the first time that he will refuse to listen further. It was once nonsense to me. But let us retreat for a moment to consider a prior notion: compulsory education is itself the sort of nonsense that a Lewis Carroll might have made us see more clearly. It is a contradiction in terms. And operationally, the fact of compulsion in education has become central to an explanation of the lockstep, sterile, conformist schooling to which our children are presently consigned. It is more than interesting to note that the principle of "consumer satisfaction," so widely applied in other sectors of our society, has been widely rejected in learning. If for their heuristic value alone, I would wish that such arguments as Paul Goodman's *Compulsory Miseducation* and Carl Rogers' *Freedom To Learn* might be included among the papers of this volume. At any rate I commend them to you as suggestive of the questions we should be asking and the solutions we should seek if we are seriously willing to launch a process of indeterminate length and complexity in the interests of helping education become educative. To embark on such a task would surely amount to something broader than a probe of the seventies.

Contrary to what I suspect is the popular notion, compulsory attendance has not been forever an article of the American faith in education. The triumph of the idea of schools as secure institutions in the early twentieth century is in important respects the story of the fight for the enforcement of compulsory attendance laws—and in many States, the story of the initial enactment of compulsory attendance laws. Until little more than two generations ago most Americans seem to have agreed, even in the face of newly enacted state laws to the contrary, that public school attendance should be voluntary. According to the once-popular arrangement, the "universal dissemination of knowledge" depended upon the State and community showing good faith by establishing and maintaining common schools. It may have been an age of boundless optimism about the rewards of formal schooling; but it was also an age of high regard for family sanctity and parental rights. The child's attendance at the local school hinged upon scarcely more than the will of the parents and informal community persuasion. To be sure, Massachusetts pioneered with the enactment of a compulsory attendance law nine years before the Civil War. But neither in that State nor any of the many other States which passed similar legislation before 1900 did there appear anything remotely resembling satisfactory or systematic enforcement. Prosecution for truancy was embarrassed and half-hearted; and local courts regularly found ways to rule in favor of the offenders while upholding the constitutionality of the attendance laws.

Advocates of enforcement decried the tendency of the local courts to take the "sentimental view." But the local judge, as friend and neighbor of the offending parent or employer, too often refused to "take intelligent and impartial action." Enforcement proponents thus found themselves attacking "neighborly feelings" and communal affection as enemies of the advancement of learning. The school, after all, had been intended to serve as the communal fount of social sensibilities and citizenship. With double-think overtones, some arguments seemed to be that neighborliness was the enemy of neighborliness.

The local justice had many accomplices in obstruction. School trustees and boards blinked at the law. They would occasionally cajole and wag fingers, but little more. Even worse, apparently, trustees would occasionally order teachers to accept without question any excuse brought by a child. But teachers seem to have needed little instruction from trustees, boards, or administrators on the art of evading attendance laws. According to numerous complainants, teachers consciously failed to enforce the laws on attendance. They neglected to report absences or they dismissed students after roll-call as an even more sly evasion of honesty in filing attendance reports. The spirit of neighborliness accounted for favors thus played for parents and students. But the desire to reduce distractions in the classroom also propelled teachers. Why force a horse to water if he won't drink? Troublemakers could more easily be "frozen out" and conveniently "covered for." In general, "Teachers have not been anxious to receive in their well-ordered classes those who, by taste or necessity, placed foremost the bread-winning pursuits." Entire rosters of public school officialdom seem often to have been riddled with quietly stubborn opponents of compulsion in education.

After probing for sources of opposition to compulsory attendance, one student registered surprise and dismay in concluding that "schools and teachers have had an inconspicuous place in the development of a public sentiment necessary to secure adequate laws for the protection and education of children." This student failed to recognize that the schools were bound to be responsive to communal sentiment; and his statement testified again to the deeply ingrained American opposition to compulsion. Small towns and rural areas remained particularly obdurate in their resistance to compulsory attendance. They insistently maintained that the idea of compulsion was "undemocratic and out of harmony with American principles of government." In cities as well as towns, large pockets of opposition or "indifference" existed. "The native American, as well as the alien fugitive from military despotism, is averse to a too prying system of inspection," as one observer noted in 1910. If faith in the power of education remained high, so too did faith in voluntarism and individual initiative.

Who wanted compulsory attendance? and why? Where did the muscle for enforcement come from? What situations and conditions transformed the idea of voluntary education (or only "technically" compulsory education) into a new formal view of the power of the State over the family and the child? The twentieth-century record of American education might have been vastly different had the earlier arrangements survived. As Lawrence Cremin has noted, "Had there never been a progressive movement, had there been no social settlements, municipal reform associations, country life commissions, or immigrant aid societies, no William James, Stanley Hall, Edward Thorndike, or John Dewey, the mere fact of compulsory attendance would have changed the American school."

If we could gain a clearer understanding of the processes by which compulsion became an element of the conventional wisdom of American education, we might incidentally (perhaps accidentally) uncover enduring truths about the shaping of American educational policy. Why, how, and with what lasting effects did resistance to compulsion in education crumble? Who (besides children, presumably) were to have been beneficiaries of compulsory attendance?

Answers to that last question move us into fields far removed from that of formal learning. We would retrace the abuses of child labor and the resulting legislation against child employment. The woman suffrage movement would, I strongly suspect, come to be seen in a new light; there is already strong evidence to support a view of much of the suffrage extension movement as an attack on notions of family sanctity (that the "woman's place is in the home"). The quest for sexual emancipation rather than child welfare often served as a central goal for the advocates of compulsory attendance. The battle between the American Federation of Labor and the National Association of Manufacturers for the mind and heart of the child has already been examined in some revealing detail. Add to this the urban messes of the turn of the century, the humanitarian and Americanization enthusiasms for compulsion, and the routine refusal of the courts to examine the question of the constitutionality of compulsory attendance.

Compulsory attendance has indeed accomplished a great deal. Conceived as an essentially urban idea, it became our popular response to child labor abuses, to the demands for Americanizing immigrants, and to the uncertainties of life in the twentieth century. Until recently, the career of compulsory attendance has been fairly secure. But with mounting criticisms of government conduct of education, minority community demands for local control, increased vigilance of the courts and civil libertarians regarding the appropriate limits of the state's control over the child (*in loco parentis* is now in rattling poor health), and despair over the disintegrated family, compulsory attendance has an unsteady future. I believe we have reached a point in time at which we are prepared to reassume time-honored individual rights of discretion in school attendance. It is appropriate (I am tempted to say imperative) to re-examine the compulsory nature of schooling.

Our legislators should work toward three objectives here: first, to keep alive the responsibility of the State to provide equal quality schooling for all; second, to breathe new life into the notion of the rights of parents and youth; the third objective follows.

Vocationalism in Education

The third objective has to do with the other piece of this argument that I submit for consideration. Earlier I spoke about two intimately related characteristics of American education that deserved our attention. The first was compulsion. The second has to do with the purposes which public schooling should serve. Curricular offerings in the twentieth century have too often sprung into life because of a suspect notion of learning. "Do we have a specific problem? Let us design a specific course." Driver education springs to mind, but not because I see it as a total waste of time. It illustrates a question of priorities, of assumptions about cause and effect. The idea should be self-evident that we should learn to control these lethal missiles, the sale and use of which the health of our economy apparently depends upon so heavily. But the intrusion of driver education into a student's day also means that something else of value must be sacrificed. The rationale regularly offered for the intrusion is that since so many people drive recklessly we need to maintain special courses in driving. But an expert driver sans social values or a strong grip on the Life Wish, and behind the wheel of a cougar, barracuda, or similar beast of prey is more to be feared than a sensible, sensitive youth who learned to drive with Dan, Uncle Harry, or even, under certain conditions, on-the-job. What one needs to know to become a good driver is largely unrelated to the mechanical skills of driving. And without elaborating further, most of what we need to know in order to become responsible, effective, and empathic beings depends less than we admit upon what we learn and more than we admit upon how we learn.

But we are at present trapped in the tentacles of the octopus against which William James sought to protect us: The Ph. D. octopus, the diploma culture. Schooling is said to be for every purpose, but especially vocational purposes. Public monies are the sources for school-based training for an enormously wide assortment of employments. And the need for economic competency, certified by diplomas and degrees and earned at taxpayers' expense, pumps more and more courses of study into the curricula of our schools. Spot advertisements in the mass media warn the dropout that one who goes through life without a diploma will earn "x" dollars less than one who has diploma in hand. Hiring practices confirm this warning. We should help to accelerate the trend toward placing full responsibility for vocational training in the hands of persons in the vocations. Youth should be given live options between schooling and work, leisure and travel. They should be free to enter and leave school as their objectives (and parental discretion) come into focus and change. Meanwhile, employers, unions, and government should relieve schools of financial and curricular responsibility for mounting vocational programs. And changing relationships between work and leisure deserve careful examination. Schoolmen should take more seriously the spirit of the challenge of persons like Arthur Bestor and ask: What common factual learning should all youth have in our prevocational or nonvocational schools? And we should pay more attention to the challenge of persons like Carl Rogers and Merle Borrowman and ask: How and under what conditions might we best learn to be free and remain free to learn? How might our schools thus be tuned better to serve the long-range purposes of both State and student as agents of humanization?

In short, I urge the General Subcommittee on Education to seek ways to liberate learning from specific vocational imperatives and from the stifling atmosphere of involuntary servitude. It is time to assert the belief that voluntary education will promote the successful implementation of enlightened ideas in education and that the American faith in education will produce superior forms of informal persuasion of children and youth, forms which will help dispel the presently clouded climate of learning. At the very least, selected communities or regions should be encouraged to accept immunity from State compulsory attendance laws and commence longitudinal experiments with voluntarism. But I would have little hope for the success of such ventures unless we also work at the national level to disentangle the purposes of elementary and secondary education from vocationalism, unless we devise inducements which will disabuse employers of the notion that a diploma is but a prerequisite to a pay check.

AMERICAN EDUCATIONAL NEEDS IN THE SEVENTIES—IMPLICATIONS FOR FEDERAL POLICIES AND ACTIONS

Robert N. Bush, Professor of Education and Director, Stanford Center for Research and Development in Teaching, Stanford University, Palo Alto, Calif.

During the next decade, while the first grader of today moves through the schools to high school graduation, what will be our most urgent educational needs, and what should the Federal Government do about them? So many things will come to pass in the next decade. As Joseph Wood Krutch in the *Saturday Review* of January 20, 1968, so well stated, we cannot rely for prediction on the projection of current trends, for a variety of reasons. Some trends are clearly contradictory—if one trend continues, e.g., greater personal and public violence, another obviously cannot, e.g., increase in the gross national product. Furthermore, some trends we ought to try to accelerate, others to reverse. New elements enter: at the beginning of the fifties could we have predicted Sputnik, the Supreme Court order to desegregate schools, Vietnam, the organization of youth to force a President out of office, the march of minorities to full citizenship—to mention only a few propositions that profoundly affect the nation and the educational system today? To paraphrase Mr. Krutch, who wrote "What the Year 2000 Won't Be Like," we can predict that education by the end of the seventies will not be like what most predictors predict. Even in the age of the computer, nobody can foresee the future.

Even so, the persistent, stubborn, and important educational problems that have been with us for so long will probably still face us throughout the seventies. The aim of Federal, as well as State and local policies ought to be toward their solution.

Education, and formal schooling in particular, stands in the middle of the cross-current of society. Its purpose is two-fold: to winnow out and to pass on to the oncoming generation the best that the society has been able to produce—to perform a cultural transmission function—and to do this in such a manner that the society and the individual will be self-renewing, self-correcting, allowing the individual to develop his full talents. This always exceedingly heavy burden has never been more difficult than when society is rapidly changing, when there is no widely accepted idea of right and wrong.

Demographic data suggest a decrease in pupils and an increase in teachers during the decade. If this turns out to be so, then for the first time we may be able to give more attention to qualitative than to quantitative considerations. Until now, we have been preoccupied with getting everyone into school, providing enough schoolhouses, books, and teachers. Perhaps the seventies will witness a substantial shift in attention to the quality of schooling.

We are at a crossroads. As we face outwards in conquering space, shall our attack be a positive venture that gives perspective or an escape from facing serious problems on earth? As we look inward, will it be for human fulfillment, or again, as an escape from the problems that men confront as they live together? An affirmative or negative answer to these two questions may hang on the experiences of the first grader as he moves through school to adulthood in the seventies.

The major educational needs requiring attention in the seventies are:

1. The construction of a more adequate tax base for the financial support of schools.

2. The more efficient management of schools so that greater educational results accrue from every dollar spent.

3. Recognition of the requirements entailed in the sharp upward demand which society is making upon the schools, which in turn is the result of a public recognition that these higher demands have sprung from the necessity (*a*) to assure the safety of the country, and (*b*) to guarantee all—not just a few—individuals the right to the full development of their potential.

These three needs may be translated into several sets of requirements for the operation of the schools, to wit: (1) school buildings and equipment; (2) curriculum, media, technology and other materials of instruction; and (3) personnel.

I am not expert in financing schools and assume that the subcommittee will receive advice on this subject. As I understand the problems, the locus of wealth has shifted since the formation of the first system of school support. The rising tide of failure of local school tax measures is symptomatic that all is not right. A greater equalization of support, as among local, State, and national sources and between poorer and riched regions, as well as greater reliance on measures that tap the wealth where it is now located will be required. That adequate financial support no longer lies within the competence of the local and the State government attests to the necessity for Federal help. Without this, the educational needs of the seventies cannot be met. This does not mean "let Uncle Sam do it." A substantial share of the burden will and should properly remain at the local and State levels.

Along with a more adequate financial structure to support education goes the equally demanding necessity that the tax dollar be well spent. Efficiency has never been a popular idea in educational circles. It must become so if the educational needs of the seventies are to be met. The old model of schooling has served us reasonably well, but it is out of date. The tools and the knowledge to construct a new one are at hand. Promising new ways need to be developed and tested.

The remainder of this discussion flows from implications of the third major educational need, which arises from the greatly expanded demand which the public is now making upon the schools to remedy deficits which have long been seriously neglected, especially among the poorer and otherwise discriminated against members of our society. Priorities should be established as among buildings, materiel, and personnel.

School buildings do not merit a high priority for the seventies. This part of education has fared relatively well, certainly by comparison with a world standard. We have a highly impressive school plant. While it needs improvement, most especially in some inner city and rural areas, this is not our primary need. The construction of more functional, flexible, and economical buildings, where the bulk of expenditure is for tools of instruction rather than bricks and mortar, represents a desirable trend. A growing corps of educational planning experts, knowledgeable and cooperative architects, and exciting new school construction systems places us far ahead of this part of the game. We have always relied upon the private sector for building, using State and local levels of government for financing. Except for higher education, the Federal government has not been heavily engaged in financing school buildings. Buildings represent an easy and often less controversial way to spend large sums of money, but they can and will be provided for locally, and I strongly recommend this lowest priority for Federal participation in the seventies.

The need for new curricula and new materials for instruction, and the application of technology to educational purposes—computers, television, film—has spawned a burgeoning enterprise. The pump has been primed by the private foundations and the Federal government. A new educational technology industry in the private sector is forming to take advantage of what they consider to be a gigantic new market. An educational technology industry may become to the teaching profession what the pharmaceutical industry has become to the medical profession. Surely this is an important development if the efficiency of the school is to be increased. It will probably not be advanced greatly in its research, development, and field testing phases by local and State governments, so that the burden, if it is to be assumed, will fall upon foundations, the Federal government, and industry, and because of the magnitude of the task, probably increasingly on industry and the Federal government. This area is important and will bear watching during the seventies, for it remains to be seen how much the private sector will "profit" from its investment.

Already signs may be observed that the investment may not turn out to be as profitable as originally anticipated. The government may need to pay a larger share of the research and developmental costs. It remains an open question as to how far the private sector may be depended on to develop the new technology that is necessary to carry the educational effort forward. I suggest that the Congress keep an open mind as to the nature and extent of its investment in developing the materials and technology of instruction and proceed slowly. Here lies a promising frontier for improving education in the seventies. At the moment it lies in the middle range of priorities for the Federal investment.

It is in the third area, personnel, where the highest priority for Federal interest lies. The arena in which the Federal government can and should make its greatest impact in the seventies is on the improvement in the quality, competence, and use of educational personnel, principally teachers.

The crucial importance of personnel is widely understood. One highly competent teacher who is effectively and efficiently employed is surely preferable to three or four mediocre ones, used poorly.

Federal aid for improving personnel in schools during the seventies should not be limited to elementary and secondary levels as it has been mostly in the past; higher education, too, should be included, for it may prove in the long run to be the most critical. The graduate school, contrary to popular belief, could become the critical point at which to break the vicious circle of poor instruction found at all levels. For here many of the future teachers are trained, and here the pattern of teaching is firmly set. Here, at the pinnacle of prestige, emulated styles of teaching become established. If these can be changed, the whole system may more readily change.

One requirement of high priority during the seventies should be to break the prevailing too narrow and parochial American view of teaching and to establish a truly international view, with both teachers and pupils becoming multilingual and multicultural in their competence and outlook. We have since World War II taken a timid first step in this direction. It must become a giant step in the seventies. Building upon bits and pieces throughout the Federal structure, we can and should construct a coherent plan truly internationalizing the teaching personnel in American schools. An International Education Center needs now to be moved from authorization to appropriation.

The seventies should deal a death blow to the flat organizational structure of the teaching personnel in the school system. As has happened in most other fields, so, too, in education should a differentiated teaching staff with an appropriate division of labor be established. Higher education has achieved this to a limited extent, but the system at all levels needs to move in toward a better division of labor, to permit a better use of and regard for the most highly trained and competent members of the teaching corps. The teaching process can be rationalized, and different parts of it assigned to personnel with higher and lower levels of competence. The correction of an arithmetic paper does not need the same level of expertise—if, indeed, it cannot be better performed by a computer—as does the diagnosis of the difficulty of a particular pupil at a particular stage in his development. Supervision of a lunchroom does not require the same level of competence as does the working out of a strategy to keep a pupil motivated and interested in a learning problem.

The schools of the seventies will require teachers who are so sensitive and so competent that they can reconcile the demands of society and the claims of individuals. The persistent, strong, and legitimate social demands are likely to be confronted with louder and more forceful demands of individual students. The schools require teachers who are able to redress imbalances as one set of these overbearing forces collides with another.

It will be increasingly important in the next decade to have teachers who can turn students "on," not "off." Given the rapid nature of social change, we shall become hopelessly lost unless schools inculcate an attitude of lifelong learning in every young person.

Closely akin to this need is the necessity for teachers who know how to engage the schools actively with the community, with citizens, and with parents. The school tends to separate itself from society, and more than ever before, the school must be linked to these vital community sources if it is to serve the needs of young persons growing up today.

Since communities and individuals differ, and since educational needs change, the school should become a much more flexibly organized and operated agency than it now is. Both teachers and administrators will need training and retraining to realize this fundamental objective. As matters now stand the child and the teacher must fit into a rigid structure of time and methodological patterns that have been firmly established over a long period.

The highest priority for the Federal government in the seventies lies in the development and better use of educational personnel. The Education Professions Development Act is a beginning. It should be expanded and supported in a major fashion.

The Congress should give serious consideration to the establishment of several—not too many, perhaps four, one each in the West, the Middle West, the East and the South—demonstration centers where the best of educational practice that has been tested can be put together for all to see. These highly visible and exciting institutions would show concretely how excellent schools can be. In all fields, but in education in particular, one picture speaks as a thousand words. One demonstration of how a school and a community can cooperate to provide superior education for their youth will exert a powerful influence on other communities. No single community would need to adopt all that they see in these nationally-sponsored centers. The initiative and final responsibility for educational practice ought to remain local and flexible. But there is great need for some models of excellence to suggest directions and provide stimulation.

We have in one location the National Institutes of Health, which have proven so valuable. Perhaps we ought to have several National Institutes of Education. If we move in this direction, it might be well at the outset to make provision to dismantle them every ten years and to re-establish them in a different location to keep their arteries from hardening. Some ought to be in urban settings, some in rural. There is already an incipient urban one in San Francisco, where the Far West Laboratory for Educational Research and Development is beginning to convert an old warehouse in the Mission region into an educational development center. The Congress ought to try not to establish more than four or five, but support them well. Once established and funded, they should be left alone long enough to achieve results, which will not be overnight. They should not be pulled up by the roots for inspection every few weeks by the various interested segments of the government.

It is important to stress, in conclusion, that if we are to improve teaching personnel we need to know much more than we now know about how teaching and learning takes place. There is a fundamental and pervasive need, greater than ever before, for a substantial program of basic educational research during the seventies. This approach, combined with a network of developmental and demonstration centers, would round out the picture and ensure a steady but accelerating flow of knowledge and tested practices, which is so necessary if we are to have the necessary amount and quality of educational change throughout the country.

The Federal role then should be to help accomplish these three critical tasks which will not to an adequate extent be carried on by the other segments of the system:

1. The conduct of basic educational research, without which no lasting improvement in the schools can take place. This is a long-range aim which extends far beyond the seventies but which must have a much higher priority than it has been given if we want to improve in the eighties and nineties. The Cooperative Research Act needs to be expanded, both in idea and funding.

2. The expansion of applied research and development efforts, which have only just begun in the sixties. The Regional Laboratories and Research and Development Centers represent a beginning, where the extensive and expensive work of translating basic ideas into tested and workable practices for widespread, ready application in the schools is beginning to take root.

3. Putting together in selected sites several workable models of the various components of the educational system, so that a total system can be observed in operation and thereby affect educational practices in different locations in the country.

If these three tasks are performed, we can achieve an appropriate balance between local control and national leadership. Basic systems that have strength, that have been tested and demonstrated to work, can become visible. The expensive and difficult developmental work leading to their implementation will have been done. But no one locality would be forced to use any system, either in part or in totality. The agricultural model which has been so successful during the last century is the one that most clearly comes to mind. The local farmer, acting by himself, could never have developed better seed corn—nor does he have to use it—but it has been developed and is now available. He can use it if he wishes and is convinced of its superiority. Its development has contributed to American agricultural supremacy.

Here perhaps may be a kernel of an educational idea and some seed for thought.

FEDERALISM, FINANCE, AND EDUCATION IN THE SEVENTIES

Roald F. Campbell, Dean, and Arthur E. Wise, Assistant Dean and Assistant Professor, Graduate School of Education, The University of Chicago, Chicago, Ill.

Educational policy makers must address two general concerns in the 1970's. The first is involved with increasing and equalizing educational opportunity and is essentially financial in character. By increasing educational opportunity, we mean such things as extending education downward to preschool age children and upward to post-high school-age persons. Increasing educational opportunity further means that the general level of support for education ought to be increased as funds are released from other demands. By equalizing educational opportunity, we mean that an explicit objective of educational policy should be that the quality of a person's education should not depend upon where he happens to reside. By the character of its support for education, the Federal government should enhance the capacity for poor states and poor districts to provide education.

The second general concern is involved with increasing the effectiveness and efficiency with which funds for education are spent. In this general concern, we include the range of reseach, development, demonstration, and dissemination. As well, it includes attention to organizational arrangements which promote effectiveness and efficiency at all levels of the educational enterprise. This paper is chiefly concerned with the organizational arrangements for education and their financing.

In general, we look toward a balancing of Federal, State, and local responsibilities in education. It seems to us that the operation of schools is best left to the local school districts, the administration of school finance to the States, the provision of additional revenues and the support of research and development to the Federal government. Of course, there is sharing in all of this. Our recommendations speak to the strengthening of each branch of government's capacity to fulfill those responsibilities for which it is uniquely qualified.

We think that it is time to recognize that Federal, State, and local interest in education are more alike than different. The task for the seventies is to develop a sharing of responsibilities which will effectively accomplish those interests.

Some of our recommendations at first glance may seem to be directed to State and local interests. This is so because we believe that many State and local problems are nationwide in scope. Conversely, many problems which are national in scope can be solved only through State and local structures. Many problems which are local in character cannot be solved by local action alone. Many problems which are statewide in character cannot be solved by State action alone.

The kind of federalism in education we envision is a policy which has as its base the assumption that the Federal government should assist the States in solving problems which are not susceptible of solution at the State level. In like manner, State governments should assist local school districts. The Federal government occupies a unique vantage point beyond the reach of State and local polities. Only the Federal government has the power to create the conditions for viable federalism in educational governance. It will have to use its leverage to strengthen all three partners in the educational enterprise.

Our first three recommendations are concerned with strengthening the governance of education at the national, the State, and the local levels. Our fourth recommendation is a call for the Federal government to encourage equity in taxation for schools and equity in the allocation of education resources *within States*. Our final recommenda-

tion suggests a new kind of Federal aid to education—one which is in keeping with our concept of federalism in education.

Our recommendations speak to modifications in the present Federal-State-local arrangements for the governance of education. We do this deliberately because our charge was to examine American educational requirements for the seventies. We believe that the problems of the next decade will be different only in magnitude from the problems of this decade. However, the increasing magnitude of these problems in the seventies will test the present structure of education. If the structure fails to accommodate itself to these demands, it will fall. There will be increasing pressure on the local property tax. Teachers will continue to demand higher salaries. Legislators will begin to question whether there are increasing returns for increasing costs. Community leaders will continue to press for meaningful control. Teachers unions will begin to press for control of concerns other than salaries. Students will continue to press for civil rights and active participation in school governance. Our present educational structure will survive if it can accommodate itself to these pressures. However, we urge that during the seventies the Federal government continue to explore alternatives to the current educational structure.

(1) *We recommend that education agencies at the national level be further consolidated and that coordination in and among agencies be increased.*

At the national level there are 42 departments and agencies concerned with educational matters. Some consolidation of these functions would appear to be in order and where consolidation does not seem wise, coordination might be increased. We are aware that steps are being taken in this direction, particularly through the Office of the Secretary of Health, Education, and Welfare, and we encourage continuation of such a program.

One suspects that consolidation and coordination of educational functions among Federal agencies have been retarded, in part, for lack of overt recognition on the part of some congressmen that the Federal government was indeed concerned with education. By placing some educational responsibilities in the Department of Agriculture, in the Department of Defense, in the National Science Foundation, in the Office of Economic Opportunity, and in other agencies the fiction could be retained that such functions were not educational at all and thus the Federal government could not be seen as encroaching upon the prerogatives of State and local governments. Legislation of the last decade or so appears to have swept away any such subterfuge, but administrative arrangements for education in Washington still bear the mark of a former day.

In suggesting further coordination among agencies, we suspect that further coordination within agencies is also in order. The Office of Education, in particular, has grown enormously over the past few years in terms of programs, budget, and personnel and it is little wonder that at times one division of the Office seems to have little knowledge of what another division is doing. While no precise articulation is being suggested, some additional communication and coordination within the Office may be in order.

As more programs are made the responsibility of the national government, it seems quite clear that efforts to strengthen the Office should

be continued. The case for giving the Office of Education full departmental status is a strong one. Whether or not the Office be given departmental status, we endorse the recommendation of the Commission on Instructional Technology to establish in HEW the National Institutes of Education as a means toward strengthening the Federal government's capacity to conduct and support educational research and development.

(2) *We recommend that the structures for educational policy making at the State level be strengthened.*

Today the States have many critics—a number of whom have all but given up on the States and would welcome more and more Federal participation in policy areas. Some believe that the state in our contemporary society is an anachronism. In a nation now shrunk by modern transportation and communication and where problems and issues are often national in scope, it no longer seems rational to expect problems to be solved through the structure of State government. Others argue that State government has not lived up to its responsibilities. The States have refused to act while many of their prerogatives have slipped to the hands of the Federal government. Too frequently State governments have not had the ingenuity to meet problems confronting them.

Yet each State has its own constitution, a substantial body of law, a long tradition, a sense of pride, and politicians in and aspiring to office for whom the state is a relevant entity. Our scheme of government depends upon a mix of powers—local, State, and national—and the educational function is enmeshed in all three. We are thus faced with making States more effective participants in the educational system.

If State departments of education are to be more effective, they must have stronger personnel. This begins with the membership of the State board of education. Often, able citizens consent to sit on university and college boards and State boards of education are manned with the next best. We think this practice can and must be changed. Unfortunately, in many States, the chief State school officer has less status, receives less salary, and may be less competent than superintendents in some of the local districts. We think steps must be taken to secure better State superintendents. One important step in this direction is the appointment of the chief State school officer by the State board of education, a growing practice but one still found in only half of our States.

Related to recommendations made for upgrading State boards of education and board selection of their executive officers are concerns with the staffing of State departments of education. Staff members in many State departments are recruited almost entirely from the rural schools of the State. We suggest that State departments of education recruit staff members from many kinds of educational institutions, urban as well as rural schools and higher as well as lower education. We also suggest that more staff members be recruited from business and government, particularly in such areas as planning and educational technology. Also, many State departments of education must develop personnel policies designed to attract and hold capable people.

We are also convinced that many State departments of education need to develop more effective relationships with the legislature and governor. The format of these relationships will vary from State to State and will depend in part upon whether the State superintendent is elected or appointed. But the State department will have little impact in the formation of policy unless board members and/or the chief State school officer have regular communication with the education committees of the legislature and with the governor's office where such policies are initiated and formalized.

(3) *We recommend that many school districts in rural and suburban areas be combined into larger units and that large city school districts be subdivided or effectively decentralized.*

Just as there is need to improve the structural adequacy of states, there is also need to improve the structural adequacy of local school districts. School districts at one time numbered over 100,000 and while that number has now been reduced to some 20,000 there are still too many units. We probably need no more than 5,000 such districts.

We need modifications of at least three kinds. It is quite clear that many small districts need to be combined in order to provide pupils in sufficient numbers to justify an adequate program. In our large cities we need to give attention to ways of decentralizing policy making. This might be done by the creation of subdistricts within the city with certain powers delegated to these units. Another plan would actually subdivide each large city school district into a number of legally separate districts. Serious consideration should also be given to the possibility of combining contiguous areas, part within a city district and part within a suburban district, into new metropolitan school districts.

Important criteria in all school district reorganization should include the following: creation of a unit large enough to justify a wide range of programs, a unit small enough to make citizen participation meaningful, and as far as possible, a unit which eliminates enclaves of poverty and race. When possible, the school district should be coterminous with other units of local government so as to promote collaboration between education and other public services. This will probably require re-examination of structures provided for all local government.

Little of this reorganization can be done if it be left entirely to local initiative or if local referendums alone are permitted to decide such questions. Part of this reorganization can be achieved if States will give some leadership to the matter, as part of a long-term planning program, and also exercise legal prerogatives when necessary. Much of it will be achieved only if the Federal government provides some incentive.

(4) *We recommend that the States begin to assume their constitutional responsibility for financing public education.*

Variation in educational opportunity arises from the way States finance public education. In nearly all States, statutes place primary reliance for financing schools on the local property tax. The local school district is enpowered to levy taxes on the local tax base. Within limitations, the local school district is free to raise as much in taxes as is politically feasible. Educational opportunity is, then, very largely a function of the local assessed valuation per pupil.

Indeed, it is generally true that poor school districts tax themselves at a higher rate than do rich school districts. However, these higher tax rates do not compensate for the deficiencies in the local tax base. Moreover, State aid equalization disbursements fail by design to compensate for the differences in local taxable capacity. In short, the operation of school finance programs fails to provide even an approximation to equality in school support. And, it may be argued, the least is being provided where it is needed most. Equality of educational opportunity in the United States is a myth.

Yet, State legislatures are generally charged by their own State constitutions with the responsibility for establishing and maintaining "a uniform system of public schools." We think that the failure of the States to assume this responsibility creates problems at the local, State, and Federal levels. The problems for poor districts are obvious. The problems at the State and Federal level are those associated with attempting to improve education in a system that is basically inequitable. Equity in educational taxation and educational benefits should be a concern at all three levels of educational government. And it may well be the case that only the Federal government can create the conditions which will result in equity within and between States.

There would be at least four consequences of the States' assuming the primary role in school finance. In the first place, the State could insure equity in the allocation of educational resources. By equity, we do not necessarily mean that an equal number of dollars should be spent on the education of each child in the state. Rather, we mean that the amount of dollars spent on a child should not depend upon the wealth of the school district in which he happens to reside. Indeed, the services provided in a district which has large numbers of poor children might well be greater than services provided in average districts.

Secondly, the State could insure equity in taxation for the support of schools. Currently, not only do the poor pay more for less in education but large numbers of average citizens do likewise. As we have pointed out, school districts with lower than average expenditures have higher than average tax rates.

Thirdly, the assumption by the State of fiscal responsibility would tend to strengthen the State department of education—often the weakest link in the chain of Federal-State-local governance of education. This strengthening of the State role in education would tend to encourage the flow of Federal dollars to the State, thence to be rationally apportioned among the school districts of that State.

Equity among States is a problem of a different order and may not be soluble in the short run. In the long run, the implications of the activities of the Committee on Assessing the Progress of Education—the National Assessment Program—should become clear. Certain areas of the nation will probably not reflect pupil achievement equal to that in other areas. Federal programs might well be designed to lessen these differences.

(5) *We recommend that the Federal government institute a new form of aid to education to be known as "qualified block grants."*

By qualified block grant we mean a kind of aid which is more flexible than categorical aid and more structured than revenue sharing. It seems likely that the Congress will be unwilling to appropriate funds for education for very long without having some influence over how those funds are spent. Indeed, it may be irresponsible of the Congress to appropriate Federal funds while surrending the leverage it has for educational improvement and change. Categorical aid is a quite specific instrument for attaining goals deemed desirable. True revenue-sharing is an instrument of Federal fiscal policy not aimed at programmatic change. The conventional block grant concept is similar to revenue-sharing in this respect. A qualified block grant would be an instrument for achieving broad kinds of educational reform. Indeed, it would be similar to President Nixon's concept of fiscal federalism, which includes such broad requirements as: sharing funds with general-purpose local governments, using the funds as increments to current efforts, and providing the Federal government with information about how the funds have been spent.

We assume that the Federal government has an interest in education beyond mere financial subvention and, further, that its interests are best served by encouraging the States to engage in reform. In order to receive a qualified block grant, a State would have to present a plan for achieving the objectives for which the grant is to be given. Rather than specifying procedures, qualified block grant legislation would be in terms of broad objectives.

Let us suppose, for example, that the Federal government were to encourage equity in taxation for the support of education. There would be a number of alternatives for achieving this objective. The State might do such things as institute a Statewide property tax, reformulate the State-aid structure, or finance education solely from a State income tax. The Federal government's interest here would be only in terms of examining the plan for its conformance to the broad objective of equity in taxation. Central to the concept of qualified block grants is the notion that all States need not meet the objective in a singular, prescribed way.

A number of problems in education seem amenable to solution by qualified block grants. These include such problems as encouraging school districts in rural and suburban areas to be combined, encouraging the decentralization of large urban districts, and promoting desegregation. These are problems for which no singular prescribed solutions are possible. However, qualified block grant legislation can embody specific standards which must be met.

The qualified block grant can become a powerful instrument in achieving a viable sharing in the Federal-State-local governance of education. If Federal funds are merely dispensed, the Federal government will lose its influence as a partner in the educational enterprise. If the Federal government continues to pile categorical aid upon categorical aid, it will surely become the dominating partner. If State departments of education are not strengthened, the concept of federalism in education will not exist. If school districts are too small, too large, and too poor to respond to their constituencies, they cannot participate effectively in their own governance.

MULTIDISTRICT COOPERATIVE EDUCATION: AN IMPERATIVE NEED FOR THE SEVENTIES

Benjamin E. Carmichael, Director, Appalachia Educational Laboratory, Charleston, W. Va.

When educators are asked for recommendations for the improvement of American education, it may be expected that they will propose programs and practices of the add-on variety requiring immediate, large increases in expenditures for implementation. Our innovations too often consist of inventions of change without giving sufficient consideration to the locus of change.

It is the contention of this paper that our "grass roots" approach to educational change and development—teacher-by-teacher, school-by-school, district-by-district—is obsolete and should be abandoned. The imperative need is for an entirely different organizational structure and the development of a broad variety of new processes. New patterns and pathways are required. Nothing else will result in significant change.

I. The present base structure and basic process of education in America are inadequate.

A. LEADING EDUCATORS AGREE STRUCTURE IS OUTDATED

In a recent address, Assistant Secretary for Education and U.S. Commissioner of Education, James E. Allen, Jr., called for "a drastic improvement in the structure, administration and management of our educational system." [1] He recognizes, as Goodlad asserts, that ". . . the prospect of redesigning any significant part of the whole is discouraging . . ." and that ". . . significant change can only result from a comprehensive attack on the whole . . ." [2]

B. SINGLE MODEL REDUCES EDUCATIONAL ALTERNATIVES

The fundamental problem with public education in this country lies in the fact that only a single model is available to guide its operation. That model is deeply imbedded in the national consciousness; its basic tenet is that for every 25 children in the land there must be an excellent teacher presiding over the intellectual and social development of her charges and that this ritual must occur in a quietly pleasant classroom. This sacred tenet of our outdated model says that we will never achieve quality education until every teacher is some sort of superhuman and performs according to a standard of excellence. We will never achieve it. The task of teaching is too complex; the level of competence can never be that uniform; and the required level of supervisory leadership and preparation cannot be attained. As long as we pour our financial resources into this rigid construct, we straitjacket staff resources and impose a learning ceiling upon millions of children.

C. FINANCIAL AND COMMUNITY RESOURCES ARE DISTRIBUTED INEQUITABLY AND UNEVENLY

Many counties in the nation do not take in enough fees to pay the salaries of public officials who operate the offices. To expect the school districts of these counties to operate quality educational programs is to demonstrate loss of contact with economic reality. Grassy Lick,

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[1] James E. Allen, Jr., "The Right To Read—Challenge for Local Leadership," an address presented to the Annual Civic Dinner of the Citizens Schools Committee of Chicago, October 3, 1969.

[2] John T. Goodlad, *Educational Change: A Strategy for Study and Action*, the I/D/E/A Reprint Series. This originally appeared as an article in the December, 1968, issue of the *National Elementary Principal I/D/E/A*, Melbourne, Florida, p. 3.

Kentucky, could never muster the resources of Pasadena, California, even if they taxed themselves into bankruptcy. Big Wind, Montana, cannot compete educationally with the resources of Winnetka, Illinois, regardless of its commitment to quality education.

After seven decades of industrialization, we have yet to face the fact that our educational organization and processes need to be changed. We proceed as if we all lived on farms and there was little more wealth in the next school district than in ours.

The present base structure will never permit equalization of educational opportunity. Those who are ahead will get further ahead, and those who are left will fall still further behind. The implications for social solidification along class lines and the hardening of the already hard-core poor and poorly educated are indeed fearful.

D. POLITICAL AND GOVERNMENTAL ORGANIZATION PREVENTS EDUCATIONAL REORGANIZATION

County lines were drawn as the population moved westward, and the reasons for deciding upon specific points to draw the lines were diverse. In few instances were they relevant to the economic social, industrial, and political realities of this century—much less this decade. School districts were created within these counties—sometimes multiple, sometimes coterminous with the county—and the deficiencies in the parent county were passed on to the school district offspring.

We have districts with an industry that produces most of the wealth in the entire region of the State. An adjacent district is too poor to grow Bermuda grass, and the best-paid residents are those who hold offices required by the ancient State constitution.

Our governmental divisions and subdivisions are ridiculously outmoded, and it is difficult for educational reorganization to take place until Federal and State action removes the barriers to change. New lines for regional cooperative effort must be drawn, based upon the geographic, demographic, economic, and educational realities of the area.

E. SHOWCASE SCHOOL SYSTEMS NOT ATTACKING BASIC PROBLEMS OF EDUCATIONAL ORGANIZATION AND PROCESSES

Many communities are making consistent and dedicated efforts to compensate for the ineffectuality of the present base structure in education. They are doing this through a superlative commitment of community resources. But since the efforts are taking place within the smothering limitations of an outdated model and through processes irrelevant to the demands of the times, the results are less than impressive. The ceiling imposed simply by limiting students to *a* teacher in *a* classroom is there. The ceiling may be a little higher for the pupil than for the unfortunate child in Punkin, Missouri, but it *is* a ceiling.

F. CONSOLIDATION WILL NOT SOLVE STRUCTURE AND PROCESS PROBLEMS

This paper does not represent a plea for "bigness." The consolidation craze of the 1950's and 1960's resulted in a phenomenal decline in the number of school districts in the United States—from 101,400 in

1945 to 22,000 in 1967.[3] The regrettable truth is that evidence of a corresponding increase in the learning of children and youth is sketchy. We became bigger and not better; size changed but structure, process, and output did not. In the most explosive period in American education, the system continued to reward teachers for what they did and not for what learners achieved. The historical model of teachers and classrooms and children by twenty-five's prevailed. The evidence is solid that consolidation has about run its course. It is not an option available to many areas in America. In Appalachia, alone, there are still 532 one-room schools. Two- and three-teacher schools are even more numerous. We are at last beginning to recognize that we have a residue of school systems that represent hard-core isolation, virtually impossible to consolidate. But even the one-room schools in these isolated systems can be reached through a new structure and new processes.

II. New educational models and processes must be developed.

A. COOPERATIVE EFFORT WITHOUT LOSS OF AUTONOMY

The Cooperative effort proposed here is not a legal consolidation of staff and resources but a coming together in a number of districts in a voluntary confederation, while still maintaining their individual autonomy, to establish an educational process featuring the extensive use of communications media, new technology, and mobile facilities as integral parts of the delivery system of education. Such a confederation of school districts, in combination with a university and a State department of education, could put together the necessary will and money to break clearly with the inadequate current model for education. This would provide the joint action context within which the restrictive factors of a typical population dispersal, limited financial and human resources, and general pedagogical paralysis could be reduced, thereby increasing significantly the instructional efficiency and cost effectiveness of education.

B. REDUCTION OF DEPENDENCE UPON TEACHERS AND CLASSROOMS

The process proposed for operation within a cooperative program would remove the child from absolute and sole dependence upon *a* teacher in *a* classroom and provide access to programmed instruction, student-activated learning packets, teaching machines, mobile laboratories and libraries, instructional paraprofessionals, teaching parents, laser-link and cable television, videotape recordings, and other appropriate instructional devices and techniques. The input to the child will be multiplied and improved in substance over what he is presently receiving.

The whole cooperative concept of teaching and learning implies a new definition of role for both the learner and the teacher. The teacher becomes a manager of a spectrum of learning experiences created for the child. These experiences have a multiplicity of origins—from the school, home, community, and indeed the nation and the world.

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[3] United States Office of Education, *Digest of Educational Statistics* (Washington: U.S. Government Printing Office, 1968), p. 45.

Once escaping the walls of a classroom, a teacher in the role of instructional manager can achieve a precision of impact on the education of children never before realized. The redefinition of teacher roles implies an ordering of teaching functions ranging from the educational diagnostician to the mass media presented to the content specialist to the paraprofessional supporter to the instructional auditor or evaluator.

C. INCREASED EMPHASIS UPON STUDENT ACHIEVEMENT IN BEHAVIORAL TERMS

The new model not only conveys the notion of reduction of instructional dependence on classrooms aid teaching; it carries a correspondingly heightened emphasis on students and learning, with the latter specified in behavioral terms.

Under the present model there can be no predetermination of goals on a broad scale, nor a systematic procedure to evaluate progress toward specified objectives, nor a research feedback system to influence instruction. The variables of instructional diversity and teacher efficiency are too great.

The U.S. Office of Education is moving toward the objective of ascertaining whether specific educational objectives are being met at specified costs. Commissioner Allen has said, "Broadly generalized statements of goals will not satisfy the increasingly intense scrutiny of the public, of legislative bodies, of businessmen and taxpayers . . . Support of education will be secured only by well-defined, precise presentation of goals that can be understood clearly and approached accurately. Support will depend more and more upon evaluation and accountability that can unequivocally substantiate successful performance."[4] As long as the bulk of instruction takes place in *a* classroom with *a* teacher, such evaluation of behavioral objectives cannot take place.

D. NEW EMPHASIS UPON PROFESSIONAL COMPETENCE WITH NEW TOOLS AND PROCESSES

We need a mechanism ". . . responsible for changing the educational system into one where teachers are rewarded for what they achieve rather than for what they do . . ."[5] The new cooperative model has that potential.

Operating within the current base structure with its multiplicity of processes is difficult, if not impossible, to evaluate the competence of instructors. Their achievements would lend themselves to objective study in a structure where behavioral goals were predetermined and their activities were channeled through new processes.

E. INSTALLATION OF COMMUNICATIONS NETWORKS AND DELIVERY SYSTEMS FOR NEW PROCESSES

While it can be argued that a new base structure and new processes should be developed before the installation of communications networks and delivery systems, it can be expected that the networks and delivery system will encourage new organizational patterns, different patterns of using staff, and a variety of instructional processes to increase the learning inputs to the child. It is certain that a concurrent development of Electrowriter, laser-link television, and computer networks and comparable delivery systems must occur with changes in the base structure.

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[4] James E. Allen, Jr., Address to the Governors Conference on Education, Boston, 1968.

[5] Robert F. Mager and Peter Pipe, *Final Report* (Subcontract to Contract No. OE4–10–163), *Teacher Training Projects of the Regional Educational Laboratories* (Los Altos, California: Mager Associates, September 1, 1969), p. 102. (Mimeographed.)

III. Federal action required for creation of a new educational structure and processes.

A. PROVIDE FINANCIAL INCENTIVES FOR COOPERATIVE EFFORT

A strong financial incentive should be given to every school district in the nation (excluding the 170 with pupil populations of 25,000 or more) to establish a cooperative educational effort with adjoining districts. The State department of education would encourage a judicious mixture of urban-suburban-rural districts in each cooperative which would reflect a broad distribution of the social, economic, and racial populations to be educated.

B. REQUIRE EXPERTISE IN THE MANAGEMENT AND OPERATION OF COOPERATIVE EFFORTS

The management of each cooperative should include expert skill in planning and evaluation, delivery of instruction, administrative services, curriculum and instruction, and communications.

States should be given assistance in developing job descriptions, certification requirements, and salary scales for personnel which will be required in cooperative efforts.

C. PROVIDE INCENTIVES TO STATE DEPARTMENTS OF EDUCATION FOR INITIATING AND UPGRADING COOPERATIVE PROGRAMS

Due to their strategic positions, State departments of education and institutions of higher learning should be encouraged to serve on cooperative policy boards, conduct joint planning, and provide specialized educational services, especially in staff development.

D. ASSIST STATE PLANNING GROUPS IN THE INCORPORATION OF EDUCATIONAL PLANNING INTO BROAD REGIONAL EFFORTS

Federal funds presently available to assist States in developing plans for recreation and industrialization should carry stipulations for the concurrent planning of broad, regional educational services.

E. REQUIRE ADVANCE SPECIFICATION OF BEHAVIORAL OUTCOMES IN NEO-PACE EFFORTS

Since Title III PACE programs have been the primary vehicle the Federal government has utilized in stimulating regional planning and implementation of educational programs, more stringent application of cost-effectiveness measures should be made.

Conclusion

The present Commissioner of Education has stated publicly his belief that a 25 percent Federal support level of all public education is a reasonable national goal.

The only new base structure which has been field tested on a broad regional basis is a multi-county cooperative effort and the new processes of education channeled through these structures point to the need for a clean break with conventional education.

Concerned professionals and laymen should resolve now to develop new cooperative instructional strategies using the best delivery systems that a technological society can make available. Failure to do so will mean that millions of children and youth will live the greater part of their lives in the twenty-first century, engaged in a futile struggle to compensate for nineteenth century education.

AREAS FOR FEDERAL INITIATIVE TO MEET EDUCATIONAL REQUIREMENTS OF THE SEVENTIES

Launor F. Carter, Vice President and Manager, Public Systems Division, Systems Development Corp., Santa Monica, Calif.

Every day newspapers contain stories about the problems of education. New York City has problems attempting to decentralize a large and cumbersome school district. An Ohio schoolboard votes to close the school from November to January because of a lack of funds. Voters in Los Angeles, San Diego, and San Francisco turn down proposed tax levies for education. Colorado has a teachers' strike which closes 73 of Denver's 121 public schools. And, even as this troubled educational decade closes, much has already been written about the problems facing education in the seventies. First, the problems of the sixties will be carried into the seventies. The education needs of disadvantaged elementary and secondary students, especially in the basic skills, will continue to plague the schools. The educational needs of preschool children, especially in central city areas, still need attention. The demand for greater relevance in higher education is growing.

The seventies will undoubtedly have some problems all their own, also. Certainly it is clear that the objectives of education are undergoing rapid change. Increasing attention to the humanistic goals, a concern with human awareness and understanding, teaching children to be sensitive to the needs of others, acquiring the ability to appreciate leisure time activities without guilt—these objectives become increasingly important in a highly complex, urbanized society. Minority groups are demanding an end to the melting pot notion of public education and are insisting that it is possible to establish a pluralistic form of education which will attempt to produce greater diversity suited to the needs of different cultures within our society. Substituting the educational mosaic for the melting pot function of the school will probably require greater community participation and control of education in the cities. The press for decentralization of urban school districts will probably produce more conflict in urban areas during the seventies.

In the face of growing public disenchantment with schools and increasing resistance to tax levies, substantial efforts have been made by the Congress to institute educational reform. Federal money has been voted to assist schools with construction, improvement of educational programs, and educational administration. Bills have been passed to provide for teacher and other professional training and student assistance, and money has also been authorized to strengthen educational research. It is apparent that the Congress has given high priority to public education and the legislation has certainly been well intentioned and has had a beneficial effect, as far as it has gone. But it is equally apparent that the problem of improving education in urban areas has not yielded to the influx of additional Federal money into public schools. Indeed, President Nixon has recently suggested that pouring more money into education will not produce significant results until the system is reformed. It is also probably not sufficient merely to amend existing laws since present education acts do not tamper with the vital architecture of education. For example, the Vocational Education Amendments of 1968 provided support for local education agencies to develop improved curriculum material, to obtain inservice training for its staff, to obtain equipment for home economics courses, and to construct vocational education schools, but not really to affect the underlying structure. Because these additional funds are transistory *and* earmarked, schools will continue to be financed in the same fashion. They will recruit and select their staffs in the same ways and they will continue to be highly resistant to fundamental change. A general impression one gets from a review of the Federal education bills is a strategy of doing more of the same—provide more money for staff training, curriculum development, and research; provide more money for special groups, special objectives, and different age levels.

These add-more-money solutions will probably not solve the education problem in the seventies and, at best, beg the educational question. They reward the erring system that exists and leave completely unanswered the difficult question of how to make immediate and lasting improvements in education, how to change the contingencies that control educational institutions in America. At worst, they may make it more difficult to derive operational solutions to the education question by implying that the money already appropriated has solved the problem.

Fundamental improvement in education is more likely to be achieved through making the funds which schools receive directly contingent on desired educational outcomes, and educators, who benefit most from the funds, probably should not be the ones to judge the outcomes. Because funds for education ultimately come from taxpayers and the benefits of education are most closely scrutinized by parents and other taxpayers in the local community, the interests of these people should be the most important consideration in determining how Federal funds should be awarded. It is possible to give the taxpayer enough power to force changes in school systems without revamping the entire tax system. For example, accredited, private schools could receive tax fund vouchers from parents who believe their children are better educated in such schools. Extraordinary tax benefits could be provided for gifts to educational institutions of the taxpayer's choice—perhaps.

particularly to designated poverty schools where the need is greatest, or schools that are most successful in raising achievement of pupils.

Disproportionate cuts could be levied on school funds in those precincts that do not pass school bonds. Industry could receive special tax benefits for providing vocational classes, release of time for professionals to teach, nursery schools for children of working mothers, or expenses incurred from allowing two women to work four hours each on a job. Parents could be granted tax funds to begin small nursery schools in poverty areas. A token number of school board seats could be filled in the same manner that jury panels are filled now in order to insure representation.

What we are proposing here is legislation that could basically alter what amounts to a monopoly by the Local education agency and the accredited teacher training institutions. Today's practice of adding more money to the present system does not break out of the narrow staffing policies, the lack of accountability and general low-energy level inherent in the present structure. Without some form of competition from the private sector in providing public education, the accountability of the public school is not a very important issue since there are no alternatives for the parent except expensive private schools. The fundamental concept of free enterprise suggests a proposal involving pluralism and competition in education so that parents and students will have some alternatives to choose from.

Several bills were proposed in 1969 in the California legislature which would have made it possible for parents to obtain vouchers so that they could purchase education for their children. A group of parents could make a contract with a private or public agency to provide educational services. The contract would specify the outcomes to be provided in its terms and conditions. Presumably, new enterprises would be created as public, private, or mixed institutions to compete for the education market. Not only would parents and students have a choice among the available schools, but teachers, as well, would benefit from a choice of employers.

Opening public education to the private sector would promote a form of pluralism never before realized in the history of education in this country. A much broader selection of people would be brought into the education enterprise. Educational personnel would undoubtedly be drawn from all walks of life and not restricted to the narrow segment of teacher trainees in our college programs. One would expect a much greater range of job descriptions with some people doing the evaluation task, and others developing resources. Still others would manage the education activity, allocating instructional resources on the basis of performance data.

A pluralistic system in which industry is involved would provide other advantages. It would accelerate the integration of school programs and occupational training by involving the consumer of those programs in the educational enterprise. A greater number of school programs would be built around real community problems, and the tools of modern technology used to solve those problems. Private organizations would also be more likely to come up with solutions to the difficult problem of translating research and development activities into school practice. Even though it is external to school now, industry uses its unique production capability to supply educational programs.

Perhaps those programs would be more responsive to changing student requirements if industry were not on the outside looking in.

Another advantage of involving the private sector in public education is its ready access to capital. Money can be borrowed against future earnings to improve the company's competitive position in the education market. Perhaps companies would initiate innovative methods of supplementing the level of funding of its schools. For example, long-term student loans would give the school a vested interest in the success of its students and would encourage improved vocational placement practices. Much of the present fiscal crisis in education stems from the fact that the taxpayer pays the cost of education while the direct benefits are received primarily by nontaxpayers. A greater amount of self-financing by those who receive the education through long-term loans from either public or private sources would help to alleviate the contingencies in the present system which mitigate against adequate support of educational programs.

In summary, involvement of the private sector to provide public education services is likely to make education more functional and relevant to the solution of modern-day problems. It is likely to expand the size of the group of people who participate in helping children to learn. It is more likely to introduce more rigorous recruitment, selection, and training of people who will staff the schools. It is likely to improve curriculum materials and the diversity of special-purpose schools from which parents might choose. It is likely to increase the accountability of education to the taxpayer, and the general energy level found in the education enterprise; it is likely to improve the quality of long-range planning of school operations, and finally, it is more likely to increase the integration of vocational and academic training.

Recognizing that this proposal is an ambitious one, it would probably be best approached by establishing a series of experimental schools. The normal procedures of procurement would be used; that is, requests for proposals would be distributed and bids would be evaluated by responsible educational and taxpayer groups. The entire procedure would be monitored and evaluated over a period of time to determine whether such a system was feasible. Recent discussions about possibility of a Federal appropriation of $12 million for the purpose of establishing some experimental schools might well be used to test the feasibility of involving private industry in public education.

Of course this represents only one alternative approach to the problem of education in the seventies. Perhaps the Congress should consider establishing a national institute for planning needed changes in education. Clearly, long-term funding of high-risk ventures in education is necessary if the problems of education in the seventies are to be dealt with.

EDUCATIONAL NEEDS FOR THE SEVENTIES: TEACHER EDUCATION

David L. Clark, Dean, School of Education, Indiana University, Bloomington, Ind.

For the past two decades teacher educators and national, State, and local policy makers for education have been perturbed by the specter of classrooms without teachers and schools without specialists. Personnel shortages in the education professions have provided the primary impetus for the teacher education and educational specialist provisions of the National Defense Education Act and the Education Professions Development Act. The keynote of the fifties and sixties has been an adequate *quantity* of trained professionals for education.

The hallmark of the seventies must be *quality*—the qualitative improvement of first, the training programs, and second, the professionals in education. The basic fact is that the teacher shortage, which seems to have persisted interminably, will have disappeared in the decade ahead. Education will, of course, suffer from normal technical and temporary shortages in sub-fields but these will not be of sufficient magnitude to determine national policy. On the other hand, the inadequacies of professional performance by practitioners in education will be set in sharp relief by the continuing social problems which education is forced to confront. Improving this performance, through improvement in teacher education, is the primary challenge confronting this field *now*.

A brief look backward

For the past dozen years, since NDEA–1958 when the Federal government initiated national programs for the education professions, the field of teacher education could be characterized, in gross terms, by the following four statements:

1. Sharp, sporadic criticism of the quality of teacher education programs, generally from nonteacher educators.
2. Statements from each of the United States Commissioners of Education, often repeated by other government officials, that the key to the improvement of educational quality is improvement of teacher education and, consequently, the quality of performance of the teacher in the classroom.
3. Government support programs to back up those statements which ended up as:
    (*a*) A response to a purported shortage in some sub-field of educational personnel, e.g., guidance, vocational education, inner-city education; or
    (*b*) Stimulatory funds to support a new field of personnel development in education, e.g., paraprofessionals, technological specialists.
4. An incredibly lethargic response to these forces of change by institutions of higher education; the institutions in which the programs of pre-service and in-service education for all America's teachers proceeded in much the same fashion as they were conducted in the early 1950's.

Men of good will and purpose inside and without the teacher education establishment have talked about qualitative improvement while the national programs designed to stimulate this improvement have been directed toward off-center targets tangential to the basic teacher preparation programs.

A view of EPDA

Although the central objective of NDEA was not intended to be improvement in the education of teachers and specialists, the central purpose of EPDA was, by the title of the Act, and by definition:

> ". . . to improve the quality of teaching and to help meet critical shortages of adequately trained educational personnel . . ." (Section 501)

If the EDPA slate could be wiped clean and it were possible to view the goal of improving the quality of teaching afresh, what components might be included in such a program? Surely, one would be concerned with the basic undergraduate pre-service preparation program in colleges and universities since this represents the yearly supply source for the field. The materials of instruction would have to be of primary concern, since experience in elementary and secondary schools has established beyond any reasonable doubt the efficacy of course content improvement programs as change vehicles in education. One would also be concerned about the flow of new ideas into the field, so that an R and D program could hardly be ignored. In-service development of teachers provides a source of short-range (i.e., quick return) improvement and this also would be a part of this ideal program. Other dimensions might be added, e.g., support for facilities, demonstration programs, areas of special concern, etc., but they would hardly fall at the same priority level as the general support programs mentioned first.

An analysis of EPDA and the companion support programs in the U.S. Office of Education's Bureau of Educational Personnel Development reveals the following startling facts:

1. Direct support for undergraduate, pre-service teacher education programs is excluded explicitly from EPDA. The Bureau of Educational Personnel Development has attempted to compensate for this exclusion by a diffuse program of small grants directed toward teacher trainers.

2. Course content improvement projects directed toward improving the materials of instruction in teacher education are excluded explicitly from support under EPDA. Some fall-out of materials with generalizable utility may occur as a consequence of BEPD support of training programs. The unlikeliness of this occurrence, however, is well substantiated by the dearth of new instructional materials which emerged from the training programs of NDEA–1958. Despite, for example, the thousands of guidance trainees supported by this program over the past 12 years, the nature of the training program and its materials have remained nearly constant.

3. Research or development projects directed toward adding to what is known about the education of teachers are excluded explicitly from EPDA. Research support for teacher education is determined by a separate organizational entity in U.S.O.E. and the integrity of the research and training efforts is, at best, suspect.[1]

4. EPDA programs and funds are used to support in-service education programs. Categories of support are identified to be responsive to apparent shortages of educational personnel and pressing social needs. The program is small and the number of teachers who pursue in-service activities under the program is, of course, far outweighed

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[1] Two of the U.S.O.E. R and D centers are concerned directly with research in teacher education (Stanford and Texas) and the output from these centers is, in fact, influencing practice in the field, particularly in the form of laboratory experiences and early field experiences for teacher education students and increased attention to the affective dimension of teacher training.

by those pursuing conventional course work in master's degree programs around the country.

The problem with EPDA is less in what it is doing than in what it is not doing. Describing it as "the fiddler while Rome burns" may be too harsh, but it is not too harsh to repeat the earlier allegation that it is off-center in its target.

Redefining the target

There is no intent on the part of the author to imply that anyone or any agency deliberately set out to design an ineffective program of support for qualitative improvement in teacher education. To the contrary, NDEA and EPDA were simply caught by the pressures of the time and the character of the field. Consequently, BEPD is saddled with a *potpourri* of programs which have labels designed to charge the imagination (education of the disadvantaged, vocational education, special education, paraprofessionals, educational technology) and operational potential to do little more than reinforce the status quo.

The present program of support for teacher education has not been rationalized, lacks cohesion, avoids the knottiest problems confronting the field, and, worst of all, assumes that one can build a strong set of special interest programs on the base of a general program in teacher education which is to weak to support them.

Before any significant progress can be made in preparation for the education professions, teacher education as a field of study and practice will have to be moved one giant step forward. It is absurd to discuss the extensive training of paraprofessionals while leaving unchallenged the inadequate preparation of the supervisors of these individuals. If the field cannot meet the challenge of adequate education for teachers in "favored" schools, it is unlikely that it will be able to invent adequate programs for trainees destined for "disadvantaged" schools.

Those concerned with national policy in teacher education must consider the general state of health in the field before concentrating on specific ailments; and the general health of teacher education is affected adversely by its place in almost all major institutions of higher education in the United States. Teacher education is one of several options available to undergraduate students in colleges and universities. Typically it is the second most popular option elected—trailing the school of college of arts and sciences. The fiscal support level available for this undergraduate training program is usually the same as, but often less than, that provided for general undergraduate instruction. But the object of the training programs is quite different from, for example, the general education offered in colleges of arts and sciences. The teacher education student is expected, at the end of his four-year tenure, to step into an elementary or secondary classroom and perform as a full-fledged professional. There is no way that this can be accomplished by talking to him in large group instructional situations about teaching. He needs laboratory experiences, field experiences, opportunities to develop and test out the tools of his trade. However, it is perfectly apparent that these opportunities do not lend themselves to the support base currently available in teacher education.

There is, of course, another possibility in the education of teachers. Assuming that the teacher's pre-service experience is inadequate as a base of training, he might be trained on the job. Unfortunately, that is not the way of the teacher's world. In the first place, he is immediately inundated with full, operational professional responsibilities, often, and notoriously, in schools or classrooms which are difficult and shunned by other teachers. The in-service education opportunities for teachers are typically provided by institutions of higher education in the form of coursework designed for the master's degree. Unfortunately, these fifth-year courses have evolved into large "money-makers" for colleges and universities. Since teacher enrollment in such programs is mandated for permanent certification in some States and tied to salary schedule advancement in most school districts, the university is assured of high enrollment classes and a captive audience. These circumstances have been conducive to offering standard courses for all with content which is frequently irrelevant to the real problems of the young teacher. When this is combined with the circumstances under which the courses are taken—as a part-time student after a day in the teacher's own classroom—the expectations held out for the current pattern of teacher education in-service cannot be great.

None of this is to argue either that these situations are desirable or that colleges and universities should be excused for these practices or "taken off the the hook" simply by a massive infusion of general aid from the Federal government. Institutions of higher education have a responsibility to educate as they purport to educate, but they, too, have constraints on available funds and are often unable to respond long after they recognize that a response is required. This is to argue that a real and vital dilemma does exist in teacher education between keeping the operation going and effecting the improvement that is necessary. It argues further that a look to the seventies in teacher education must face the facts of where the field is today and design a realistic support program—local, State, and Federal—which is responsive to this challenge.

Teacher education tomorrow

This section is based on three assumptions, two of which have already been examined briefly, to wit:

1. The challenge of the seventies in teacher education requires a refocusing of concerns from quantitative to qualitative pressures.

2. The present state of the art in teacher education in terms of both national policy and local program operations is essentially unresponsive to the need for qualitative improvement in the field.

The third assumption is that dissatisfaction with the present state of affairs in teacher education and the knowledge and leadership to do something about it exist within the community of teacher educators in this country.

To provide testimony on this critical point, three documents will be used for reference. Each of these documents was generated internally by the field and each charts a road to tomorrow in teacher education.

First is a publication of the American Association of Colleges for Teacher Education entitled *Teachers for the Real World*.[2] This exhibit is introduced for two reasons, (1) AACTE is broadly representative of the "establishment" in teacher education, and (2) this publication faces the deficiencies of existing programs directly and proposes a radical new program which has power to overcome some of these deficiencies. There is no intention in this paper to review the substantive proposals of the document, but two passages will be cited. On the first page of the preface, the editor, B. Othanel Smith, makes three critical points—(1) teacher educators do recognize and will respond to the need for change, (2) they possess an adequate knowledge and experience base to reform it, (3) they are increasingly moved to deeds not words:[3]

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[2] Smith, B. Othanel, *Teachers for the Real World* (The American Association of Colleges for Teacher Education, Washington, D.C., 1969), 185 pp.

> This is a time for both immediate action and long-range educational planning. It is a time for radical reforms in teacher education as well as in all other educational programs.
>
> Teacher education is at a critical point in its history. There is now enough knowledge and experience to reform it, to plan a basic program of teacher education for an open society in a time of upheaval. But if this knowledge and experience are dissipated in prolonged discussions of issues, doctrines, and tenets leading only to *more* dialogue, instead of a fundamental program of education for the nation's teachers, teacher education is likely to fragment and its pieces drift in all directions.

One other important notation from this volume supports the view expressed earlier in this paper that the solution to the problem is national in scope:[4]

> Programs with national thrust and responsibilities are needed to move universities, regardless of their source of support and location, to accept teacher education as a common national problem.
>
> Given the objective of an open society, it is essential that national revenues be made available for the initiation and continued support of such national teacher education projects as manpower recruitment, training programs, and materials development.

The other two documents referred to earlier are unpublished reports being distributed to the membership of the AACTE[5] and the deans of schools and colleges of education in the National Association of State Universities and Land Grant Colleges.[6] Both documents were prepared by committees established by these associations to examine and make recommendations in regard to national policy relative to teacher education. These documents have three characteristics in common:

1. A recognition of the current inadequacies of performance in operating programs in teacher education.

> Universities are on a low plateau in their teacher education performance. Low total levels of support spread their efforts so thinly over processes to meet traditional expectations that no peaks of excellence, much less overall distinction, can long survive.[7]

2. A recognition of the current inadequacies of the Federal support program for teacher education.

> Federal support has been directed chiefly to a wide range of small, specific training programs. Under the Education Professions Develop-

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[3] *Ibid.*, IX.

[4] *Ibid.*, p. 178.

[5] Unpublished memorandum from AACTE Committee on Government Relations to the membership of AACTE, January, 1970. Available from Walter J. Mars, Associate Executive Secretary, AACTE, Washington, D.C.

[6] Cottrell, Donald P., "National Policy for the Improvement of the Quality of Teacher Education," prepared for the Association of Deans of Schools and Colleges of Education of the National Association of State Universities and Land Grant Colleges, September, 1969, 27 pp. Available from Donald P. Cottrell, The Ohio State University, Columbus, Ohio.

[7] *Ibid.*, p. 16.

> ment Act, for example, no major qualitative problems have been attacked and the available funds have been so limited and dispersed so widely as to make little difference of a qualitative nature.[8]

3. A new legislative program which includes, (a) direct support for undergraduate teacher education, (b) a Federal program for the development of instructional and training materials for teacher education, (c) support of research and evaluation projects in teacher education, and (d) stimulation of demonstration and dissemination programs on innovative teacher education programs.[9]

A proposal for tomorrow.—Having participated in the development of both of the papers just cited, the author unabashedly credits these papers and others associated with them just once and then proceeds to outline briefly a five-point program for the 1970's which draws heavily from these sources. This program is designed to meet the central challenge to education professions development in the decade ahead, i.e., improvement in the quality of professional preparation in education.

A. The Establishment of a National Teacher Education Foundation

Two critical current needs could be met by such a Foundation, (1) the rationalization of a long-range program of national policies to effect improvement in the education of teachers and specialists in education, (2) the mobilization of talents from many fields to provide a base of operational support for continued excellence in teacher education. The Foundation could be financed in part by private foundations and in part by the Federal government assuring the national commitment of the private and public sectors to achieve excellence in this area of critical national need.

In substance, this recommendation bridges the four recommendations to follow. The foundation should play a central role in determining the policies and administration of the programs established to effect the more specific recommendations and, indeed, should be in an authoritative position to advise Congress on their potential efficacy. The Foundation, if properly established, could attract top scholars to turn their attention to a field which has, up to this point, seemed too hopeless to consider for serious scholarly effort.

B. The Provision of Direct Support for Undergraduate Preservice Education

No serious national program for the improvement of teacher education can avoid direct support to the basic supply channel in the field. Initial assistance might be restricted to the establishment of a limited number of "centers of excellence" (perhaps 25) which prepare a significant number of initially certified teachers each year. But this support should be viewed as permanent and the expectation should be clear that the institutional base of support will be extended in an orderly fashion consistent with the ability of institutions to exhibit the potential for excellence.

If this support were converted at an early stage to general financial aid for teacher education institutions, it would undoubtedly miss its objective and reinforce mediocrity. The aid should be provided to establish and maintain new levels of operating excellence in institutions that exhibit the resources and will (including financial investments) to do the job. Such supported programs should include the best that is currently known, and show potential for adding to what is known, about the education of teachers.

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[8] *Ibid.*, pp. 16–17.
[9] AACTE, pp. 1–4; NASULGC, pp. 16–27.

C. The Provision of Direct Support for In-Service Education Programs for Teachers

This concept is an extension in type as well as in quantity of the current in-service support programs of U.S.O.E. The method of initiating and increasing such institutional support might be similar to that described in (B) above. The object of the program would be to invent and operate joint programs among school districts, State education agencies, institutions of higher education, and other relevant agencies directed toward the improvement of the classroom performance of experienced teachers. So much of the success of this venture depends upon new organizational arrangements for in-service education that initial grants might be oriented chiefly toward State or regional consortia to test the arrangements. Success in new arrangements for in-service education will, of necessity, challenge long-standing practices in teacher certification and teacher remuneration.

D. The Establishment of a Course Content Improvement Program for Teacher Education

The dearth of good instructional materials for use in teacher education programs is a major impediment to progress in the field. The monograph cited earlier, *Teachers for the Real World*, demonstrates in dramatic fashion the impossibility of mounting a qualitatively superior program on the base of materials currently in use. This field needs desperately, for example, laboratory materials which can be used to simulate the real world of the teacher. There is almost nothing available on such a basic topic as diagnosing learning disabilities. No investment in the field would yield a richer or more immedate return than the establishment of several major course content improvement projects or centers. The availability of new and demonstrably superior teaching packages for use in teacher education would reduce resistances to change and affect institutions of every size and type.

E. The Establishment of a Project-Oriented Research and Development Program in Teacher Education

Such an effort might well build upon and be housed in U.S.O.E.'s National Center for Educational Research and Development. However it is handled organizationally, the fact is that the current flow of new information about teacher education is only a trickle. The current R and D centers for teacher education, mentioned earlier, have exhibited that new ideas will be picked up if they are generated. The present knowledge base is sufficient to provide directions for short range improvement, but massive long range gains are within grasp if top scholars can concentrate on this field for a decade.

Summary

The major concern of teacher education and education professions development in the 1970's is qualitative in nature—to improve the performance of professionals in education on the job.

Teacher education programs today are qualitatively inferior and institutional sources of support are inadequate to remedy the failure.

The problem is national in scope but the current patterns of national support are directed toward tangential concerns and are leaving unaffected the central qualitative problems.

Dissatisfaction with the present state of affairs in teacher education and the knowledge and leadership to do something about it exist within the teacher education community.

An adequate national program to upgrade the quality of teacher education in the 1970's should include:

Establishment of a National Teacher Education Foundation.
Support for undergraduate pre-service education.
Support for in-service education programs for teachers.
A course content improvement program for teacher education.
A project-oriented research and development program in teacher education.

PROFESSIONAL ACCOUNTABILITY FOR RESULTS

Wilmer S. Cody, Superintendent, Chapel Hill City Schools, Chapel Hill, N.C.

In spite of major advances, our public schools are not as effective as we need them to be. In terms of what kinds of education a person needs to be a successful participant in the present and future American society, our schools are failing a large proportion of our young people.

The serious problems in elementary and secondary education that must be solved during the 1970's are numerous.

Some of the problems have been more serious because our society is changing. There simply is no longer any satisfactory role in American society for the illiterate citizen and places for the unskilled have almost completely vanished. The continual change in the kinds of labor that our society requires of its citizens gives rise to need for continuing education throughout a person's life. Although business organizations do and will continue to educate their employees for new labor (and management) demands, many citizens will be caught in dead-end jobs that disappear as a result of changes. Public education must increase its commitment to training people for new careers, particularly in the skilled and semi-skilled areas, since it is in these areas that jobs are most rapidly disappearing or changing.

For elementary and secondary schools, the major need is to educate *every* student to the level where his education can continue. Historically, the academically weak students have been put in all-vocational courses. "He can't learn reading and arithmetic so let's train him so he can get a job." Although training for a job is valid, the tragedy replays itself if the job is ever abolished and the person must seek a new career. Not possessing the basic learning tools of reading, writing, and math, he finds that his career options are few and the places he can learn a new career are almost nonexistent.

Elementary and secondary schools simply *must* find ways to equip *all* students with the basic learning tools of reading, writing, and arithmetic. That they are not doing so now constitutes one of the major needs for education in the 1970's.

A second need for education in the seventies derives from the heightened awareness of a problem society has always had. Our society cannot withstand the injustice that results from the seemingly inevitable barriers that arise where racial and social class separation occurs. The political and economic strength of our nation is built partly on faith in the equal rights of all individuals and faith in equal opportunity. Opportunity is not equal in our nation; it is not even equal in our schools.

The barriers are prejudice, hostility, and false or irrelevant value judgments made by one person about another. The only ways we know how to overcome these barriers are either to legislate against them so that a change occurs in opportunities by having equality based on enforcement of laws or to bring people together to know each other as complex individuals rather than simple stereotypes.

Public education is the only institution available to the State to bring together people of differing races and social classes. Lowering the barrier of prejudice in our society began in the sixties; it must continue to be one of the most important needs of education in the seventies.

Teaching all students the basic tools of learning and lowering the barrier that occurs from the prejudice in men's attitudes and behavior should both be items of priority concern for education in the seventies. This paper, however, is addressed to problems that do not originate with general problems in society but exist as flaws in the bureaucracy and professionalism of education. Actually, they are problems within our schools that may partly explain why we have not been more successful in lessening prejudice, in teaching learning skills, and in accomplishing numerous other goals of our schools.

The bureaucracy of our schools and the professionalism of our educators both contain characteristics that foster a lack of responsiveness to internal weaknesses in our schools and to our failure with a large number of individual students.

As a goal for the seventies, a new system of methods, procedures, and tools must be devised that will make the schools more responsive to the problems, interests, needs, and wishes of those whom they serve by holding the individual professionals and the schools as organizations accountable for their effectiveness. As much as any other goal, developing accountability will improve education in the future.

Traditionally, elementary and secondary education has been slow to improve in part, because bureaucratization, designed to make educators accountable to their clients, has been in conflict with the individual teacher's desire of, and to be effective, need for autonomy in working with his students.

Schools have been organized like large manufacturing plants with bureaucratic structure to insure that the employees are properly supported and controlled so that the goals of the organization can be met.

The techniques of control have been similar.

Supervision of employees is used in education as well as in industry and has some merit in both. It seems especially appropriate when an individual spends a few minutes advising and checking on an employee performing a particular kind of activity that will be repeated many times.

A teacher, however, seldom repeats the same activity more than a few times. Teaching activities change from year to year as well as from student to student. While supervision of teachers has considerable value, particularly in spotting problems and assisting teachers who are having difficulty, the use of supervision of teachers as a method of making educators more responsive and accountable will never be a major influence in our schools. Because goals and activities need to change so rapidly, the cost of providing supervision for all teachers is simply prohibitive.

The close and frequent supervision that would be required would, itself, be dysfunctional. Numerous research investigations have shown that the performance of any employee, whether teacher or assembly line worker, is depressed by close supervision.(1) Except when an employee is having serious problems, it seems that to be effective, supervision must be used sparingly. The nature of teaching is simply too complex for infrequent supervision to be of any substantial influence.

Impersonal process mechanisms are also used to control the behavior of employees. Manufacturing companies, in the extreme cases, use asembly lines and specifically prescribed procedures. Schools use textbooks, teaching guides, lesson plans, and more recently, "teacher-proof" packages of instructional materials. Doing one's job satisfactorily is a matter of following the rather specific procedures that have been "adopted" by the school system.

Rewards are issued by the administration in the form of praise, attention, and promotion for those teachers who process their students through the basal texts. It becomes important that all the students finish the book so they will be ready for next year's teacher and next year's basal text.

There are obvious values in using such process mechanisms to control the work of school teachers. The formal adoption of a new set of curriculum materials accompanied by a program to train teachers in how to use them can be an effective way to bring about rapid innovations in the schools. Modern math, and "new" science textbook adoptions are good examples of changing the objectives the objectives of a curriculum rather rapidly so that students are learning different kinds of things. A wide range of educational innovations is now available in the form of packages that, when successfully implemented, represent improvement over the traditional "packages" of a graded textbook.

Such process mechanisms, however effective they may be for assembly lines, fall short of the activities required of a teacher who must, to be successful, accommodate the various educational needs of many students. Although some teacher-proof packages have built-in features to respond to individual differences, none have been developed to circumscribe the full range of teacher and student behaviors that must precede learning. Of greater significance are the numerous research projects that conclude that the most important ingredient in effective learning by students is in the personal relationship established between the teacher and student.(2) A student works harder and learns more when he believes that his teacher cares about him. No publishing company has yet been able to package "caring." Furthermore, studies have indicated that an overemphasis on packages can lead to depersonalization in the classroom.(3) The package becomes more important than the child to the teacher.

A third way schools have been organized to hold teachers and administrators accountable is by a system of bureaucratic rules, mostly in the form of school board and administrative policies. In many school systems, extensive and detailed rules exist that prescribe what the teacher will teach, when he may and may not leave his classroom, how many staff meetings he must attend and on and on as a method of circumscribing the work effort of the staff members. Teachers and administrators are then doing their job satisfactorily when they follow the board and administration policies of the school system.

As with the other control mechanisms, rules have considerable value. They provide guidelines to the individual as to what his job is, and in general, what is expected of him. The absence of some guides can, according to some studies, lead to "role ambiguity" and consequent ineffectiveness on the part of the staff member. (4) Rules can also be valuable in clarifying the relationship between two or more individuals who must work together. Many educational goals are reached by students in a hierarchial progression. The instructional approach used in a first-year French classroom is very important to the teacher of second-year French. In addition, bureaucratic rules can specifiy privileges and prerogatives of each staff member, thereby protecting the autonomy, freedom, and flexibility needed by teachers to work effectively with their students.

In spite of these and numerous other benefits bureaucratic rules also have disadvantages, especially when applied to school systems and other organizations staffed by professionals.

The objective of the school can become more important than what the students learn. (5) Extensive rules permit staff members to function in a school without personal involvement and thereby serve as stimulus to apathy. Rules simply cannot prescribe the deep commitment usually associated with a successful teacher.

Overemphasis on rules also can lead to impersonalization in much the same way as an overemphasis on textbooks. When the impersonal enforcement of extensive rules becomes the major focus of the administrator-teacher relationship, this same pattern is carried over to the relationship between teachers and pupils. Focus is on the impersonal treatment of pupils to follow rules rather than the formation of personal concern and a feeling of "caring."

To review, supervision, process mechanism, and bureaucratic rules are valuable and to some extent necessary ways of insuring that school organizations and their staff members are accountable to their clients for their obligation. None of them, however, is sufficient and each is accompanied by constraints on the teacher that prevent him from doing an effective job.

Such systems, borrowed from the fields of industrial and business management, are in conflict with the procedural autonomy and flexibility the highly trained professional teacher needs to meet the varied needs of the students with whom he works.

If these bureaucratic systems of accountability are not sufficient and to some extent dysfunctional, what kind of system of accountability will insure that school organizations are responsive to the needs and wishes of their clients and individual professionals accountable for their effectiveness.

Much has been said about the profession "policing" itself. Performance would be judged by colleagues. Prior mastery of certain skills would be required before the profession would admit a new member.

A code of professional ethics would protect the client from incompetence and malfeasance. The staff member who violates the code would be sanctioned by his colleagues. (6)

This kind of accountability system currently exists, to some extent, in universities and in hospitals.

It can hardly be considered to be working satisfactorily, however. While the rewards and sanctions in the academic profession have led to major contributions through research and other creative efforts, the system has hardly held the members of the profession accountable for their effectiveness as teachers of young men and women. The profession offers few incentives for being a good college teacher and no penalties for being a poor one.

The recent flurry of effort on the part of universities and their teachers to improve instruction is more a consequence of college students (clients) raising hell on the campus than a consequence of the organized professions holding their members accountable for their teaching effectiveness.

In the medical profession, doctors, of course, are occasionally sanctioned for malpractice. Usually, however, this occurs only after a patient, or the surviving members of his family, files a complaint or a suit in court.

In medicine (and in law as well) the clients hold the professional accountable for the results of his effort simply by exercising the option of firing one and hiring another who may be more successful.

If the profession cannot really satisfy the requirement for accountability, and bureaucratic rules, processes, and supervision are not sufficient, how could public elementary and secondary education be organized so that it becomes more responsive to the needs and wishes of its clients and thereby more effective?

One option would be to have clients evaluate a teacher's effectiveness and decide whether he should continue to teach. This, however, would make teacher employment too susceptible to the capriciousness of individual or small groups of parents who would choose a teacher as a scapegoat for numerous problems. To some extent, parents already exert some influence over the teacher's employment. Unfortunately, while the bureaucracy legitimately protects good teachers from such capriciousness, it also protects the incompetent.

A second way for clients to hold the professional accountable is for governments to provide students with tuition money, abolish "public schools" and transfer education to a free enterprise system. All schools would be private and would compete with each other. This may work, if parents, in choosing a private school, would demand that the staff give evidence of results. Such a system, however, would not likely be conducive to developing an equality of educational opportunity in our country and would quickly separate students according to how much each could supplement the State allotment for his education.

If we accept the notion that the goals of education must be set by the public and that the function of schools is to meet these goals as best they can, then the schools and their staff members must be held accountable to the public for their effectiveness.

If teachers need wide latitude in the performance of their work and if bureaucratic systems of accountability must be kept at a minimum to permit such freedom, then in exchange for this autonomy, they must be held accountable for the *results* of their efforts. In exchange for professionalism, a system of tools and procedures must be developed that will reveal what a student has learned while under the supervision of a teacher. At present such systems do not exist; their development should constitute a major goal for elementary and secondary schools in the seventies.

FOOTNOTES

1. Alvin W. Gouldner, *Patterns of Industrial Bureaucracy*, (Glencoe, Ill.: Free Press, 1954).
2. James G. Anderson, *Bureaucracy in Education*, (Baltimore, Md.: The Johns Hopkins Press, 1968), p. 156.
3. Anderson, *ibid*, p. 12.
4. Anderson, *op. cit.*, pp. 127–135.
5. Robert K. Merton, "Bureaucratic Structure and Personality," *Social Forces* (May, 1940), pp. 560–568.
6. Peter M. Blau and Richard W. Scott, *Formal Organization*, (San Francisco, Calif.: Chandler Publishing Co., 1962), pp. 60–63.

EDUCATION IN THE SEVENTIES

Wilbur J. Cohen, Dean, School of Education, The University of Michigan, Ann Arbor, Mich.

INTRODUCTION

The 1960's have proven to be an exciting and turbulent time for education in the United States. The legislation enacted in the sixties should serve as the basis for defining the educational goals and policies of the seventies. These issues, in my opinion, can be summed up in the three "R's", not the traditional ones, but *Race*, *Relevance* and *Resources.*

The national urge to raise the quality of life for all has produced an addition to the list of basic American rights: the right to an education for all at a quality level equal to the best we can offer. This right must be extended to all—white, black, Mexican-American, Puerto Rican, or American Indian. Yet, despite a gradually increasing public acceptance of the idea of full education for every citizen to the limits of his capacity to absorb it, many thousands of young people are not accorded this right. From the point of view of our society—and of the individuals as well—this right must be assured.

We must also assure that we are providing training for young people which will adequately prepare them to live and work productively in our complex technological society. The word "relevance" has become a cliché, but it is vitally important. Our children must be taught the skills—both practical and social—to cope effectively in both the work place and in the community. Our economy relies on the skills of its manpower and our democratic form of government relies on the ability of its citizenry to think rationally on the major issues.

To accomplish the broad and critical objectives of racial equality and educational relevance, we must assure that our schools have the needed resources. It must have trained personnel who will be able to provide the necessary leadership. It must also have the financial resources to insure that the best people this country can provide will be attracted to work in the field of education.

Because of the national urgency of these issues, the Federal government must play a larger role in the financing of education. Fortunately, the programs initiated during the sixties provide a base of legislation and expertise from which to work.

The U.S. Office of Education, which for almost a hundred years was primarily a statistics-gathering organization, is now an agency administering funds that are giving millions of our children fuller opportunities: special help for poor boys and girls, books and other educational materials, work-study help for young men and women who want to go beyond high school, aid for more than half our colleges and universities, and research grants that have improved the whole process of education. Most importantly, after a century of debate, the fears and bugaboos about Federal control have proven groundless; the issues have been clarified and the facts straightened out. The Federal role in education has been established.

The seventies provide the opportunity for restructuring and improving our educational system. Since the early 1950's, educators have been overwhelmed by the problems arising from the quantity of students to be educated. The post-war baby boom caused vast increases in the student population, requiring educators to build new schools, find new teachers, and look for ways to teach the many additional children. Projected enrollments for the seventies show a leveling of the number of elementary and secondary school students. We must now focus our efforts on problems of quality.

RACE AND EDUCATION

Events of recent years—the frustrations of the minority and the fear of the majority—have resulted in a polarization of the races. This is a condition which a democracy cannot tolerate if it is to remain a democracy.

The solutions to this problem are many, diverse, and complex, involving the whole spectrum of conditions and attitudes which comprise our societal structure. Yet, at the cornerstone of these solutions lies the educational system. We can and must ensure that our schools guarantee everyone an equal chance and ensure that every student learns to understand, appreciate, and cooperate with his fellow man.

The last fifteen years have produced marked changes. In 1954, *Brown* v. *the School Board* of Topeka, Kansas, declared that it was impossible for separate facilities to be equal facilities. Ten years later, in the Civil Rights Act of 1964, Congress declared discrimination in education to be illegal.

While the actions of both the Supreme Court and the Congress were monumental historical events, conditions will not let us rest on our accomplishments. Today, effective implementation of these rulings has not yet occurred. We, as a nation, must vigorously push for the immediate compliance which the most recent court decisions have decreed.

The role of the Federal government is vital. The 1970's must see an expansion of the provisions of Title VI of the Civil Rights Act to ensure elimination of segregation wherever it exists, for whatever reason it exists.

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The Federal government must serve as the basis for expertise. The Department of Health, Education, and Welfare must expand its technical advisory staff to aid Local school districts. The Office for Civil Rights in the Department of Health, Education, and Welfare and the Justice Department must be strengthened to ensure that the law of the land is being carried out.

While Federal programs and direction are vital in desegregation, State action must also be stimulated. Title IV of the Civil Rights Act has provided a base for improving State programs. However, the functioning of these State agencies is limited to the provision of technical assistance to schools in the process of desegregating. These State agencies should have the staff and the expertise to work in the whole range of problems relating to race and education.

Research is underway in different aspects of integration. A means is needed to coordinate and disseminate these efforts. The Federal government should sponsor centers at three or four major universities so that the findings of the research will be readily available to schools struggling with integration.

Educational Relevance

As our society becomes increasingly more highly developed and changes occur with ever greater rapidity, not only a person's livelihood but, indeed, the very essence of the life he leads will depend on his education. Education in the seventies must spread from the very young to the very old, as well as be improved for these age groups currently being served.

A growing body of knowledge tells us that very young children can be stimulated to learn far more than has been expected in the past, and that learning really does begin at birth. All children need time, money, and attention spent on them before they reach the age of six. Yet, the children who most need to have their minds stimulated and their environment enhanced—including two-thirds of the over two million poor children between the ages of three and five—often lack such opportunity.

In the seventies, we must develop a comprehensive preschool program including the construction of facilities and the training of qualified personnel. We must start incrementally to lower the age of education. First, all five-year-olds must have the opportunity for a meaningful learning experience, then four-year-olds and then three-year-olds.

Our regular school programs must be improved to make them more relevant to our technological age. By 1975, three-fourths of our labor force will be producing goods and services that did not exist ten years before. This prospect of every changing technology serves as a challenge to the educational system.

Schools must foster the art of learning and provide pupils with a general education they need in order to adapt to the changes that will occur during their lifetime. In other words, the educational system should be charged with offering a student a sound, basic, and diversified education.

New and different kinds of educational services must be developed for a generation which will become increasingly involved in leisure time and cultural pursuits. The educational system will have to become increasingly involved in the affairs of the community to help each person adapt to the revolutionary changes around him.

To accomplish this goal, the educational community must expand its focus. It must not only serve the children presently under its jurisdiction but must provide education and training to those beyond high school age. Modern man will likely regard the continuation of his learning experience as a normal lifetime activity.

The system can reach this objective by further tapping its existing resources. School buildings must be open for longer hours to provide adults with refresher and enrichment courses. We must experiment with the concept of the year-round school, which will provide for maximum use of our existing physical plant. We must also increase the use of television to provide a broad range of cultural and educational programs.

RESOURCES FOR EDUCATION

To meet the demands of an educated society, we must make certain that we have the sufficient resources, both fiscal and human. Of all our economic structures, the methods of delivering resources to education are the most antiquated and least responsive to the changing needs of a dynamic society.

Educational finance is provided mainly through Local and State revenue. Local funds are raised primarily through the property tax. State funds are obtained from a combination of sources; however, most States still rely heavily on regressive sales taxes. The net result of these types of taxation systems is that we have a grossly unequal distribution of funds.

From the mid-fifties to the present, there have been minor redistributions of the cost of education. The Federal share has increased from 4 percent to 8 percent. The State share has increased from 33 percent to 38 percent and local contributions have declined from 63 to 55 percent. However, there are still vast differences in expenditures by States. (See Table I). There are some States which spend less than half the amount that others do.

Our goals in educational finance must be to provide the maximum possible services to all children in the United States and to equalize the cost of such services. The only way this can be accomplished is to utilize the progressive elements in our taxing structure—the Federal taxing power. By allocating more Federal money for education we will be able to distribute the available income to the locations where it is most needed.

The Federal government in the seventies must assume at least 35 percent of the cost of supporting elementary and secondary education. This money would be used for two primary purposes.

First, it would be used to provide increased support for certain key programs which are deemed to be of vital national importance. For example, vocational education must be improved throughout the nation. Traditionally vocational education has been structured for individual trades. However, we must now prepare students to work in highly technical, computerized plants. To provide the necessary equipment and personnel is expensive, far more expensive than almost any of our school districts can afford. This necessary component must be provided largely by the Federal government.

Pre-school education, which will require massive physical and human resources, must also be provided by Federal money. The size and dimensions of this program demand a national commitment and national funding.

Second, Federal funds should be used for purposes to equalize and ease the burden on States and localities. This money should be allocated to States for educational programs, but also should be used as an incentive for States to restructure their tax system and to institute and obtain more income taxes as a replacement for property and sales taxes.

While financial resources are of vital importance, we must guarantee that the human resources—the teachers, counselors, principals, and administrators—are of the highest caliber we can provide. Part of the problem will be alleviated if schools have sufficient funds to attract qualified personnel.

We must recognize that teachers will be taking the leadership role in society and in the reformation of our institutions and processes. We must assure that those people are receiving a high quality training. Our colleges of education are not providing the innovations that our educational system needs. Our future educators are not prepared to work with the very young child—to provide him with a significant educational experience before he reaches six years of age—and they are not prepared to meet the challenges of education in the ghetto or the challenges of the exceptional student. We have concentrated on preparing traditional teachers to work in a traditional setting. But the seventies will see fewer and fewer traditional schools and traditional teachers.

Our colleges of education must expand their focus to draw upon the university communities around them. They must become more multidisciplinary, bringing the thinking of economics, sociology, political scence, public health, social work, and law into effective communication with psychology, learning theory, motivation, and the administration of institutions. The Federal government can play an active role in this effort through fostering and sponsoring research which will serve as examples or prototypes in this effort.

We must also increase the available pool of people willing and able to work in the educational community by breaking what Professor S. M. Miller calls the "credentials barrier," by emphasizing qualifications rather than degrees. A place must be provided in the educational structure for people who lack the traditional prerequisite for employment but who are able through their experience and background to make a meaningful contribution to the education of the young.

Conclusion

A prosperous democratic society must be an educated society. In the past we as a nation have met the challenges placed before us, and we have grown and flourished. We have no alternative but to meet this challenge again in the 1970's.

The demands to be fulfilled to meet these requirements will be high—both in monetary terms and in terms of changing our traditional patterns of education. We need leadership—which must be provided at the Federal, State, and Local level.

If the price for a better education is high, we can be confident in knowing that the payoff will be even higher.

TABLE I.—*Estimated expenditure per pupil in average daily attendance in public elementary and secondary day schools, by State: 1967–68*

Alabama	$497	Montana	$734
Alaska	1,343	Nebraska	611
Arizona	703	Nevada	815
Arkansas	550	New Hampshire	743
California	815	New Jersey	943
Colorado	740	New Mexico	766
Connecticut	809	New York	1,125
Delaware	911	North Carolina	541
Florida	719	North Dakota	689
Georgia	583	Ohio	691
Hawaii	784	Oklahoma	622
Idaho	600	Oregon	794
Illinois	716	Pennsylvania	809
Indiana	780	Rhode Island	839
Iowa	678	South Carolina	486
Kansas	684	South Dakota	685
Kentucky	546	Tennessee	541
Louisiana	754	Texas	612
Maine	578	Utah	677
Maryland	921	Vermont	744
Massachusetts	816	Virginia	686
Michigan	782	Washington	727
Minnesota	894	West Virginia	540
Mississippi	413	Wisconsin	834
Missouri	627	Wyoming	775
United States			$750

Source: U.S. Department of Health, Education, and Welfare, Office of Education, "Fall 1967 Statistics of Public Schools" and unpublished data.

TOWARD REFORM OF URBAN SCHOOL GOVERNMENT

David L. Colton, Acting Director, Graduate Institute of Education,
Washington University, St. Louis, Mo.

Growing concern for the plight of America's large urban school systems recently has led to the adoption of a multitude of programs designed to improve urban education. These programs include curriculum reform projects, programs for teacher training and re-training, preschool programs, community school programs, vocational training and work-study programs, supplemental centers, and many more. New programs are being contemplated.

Recent Congressionally-sponsored programs, as well as virtually all of the State-sponsored efforts to improve urban education, are establishment-oriented. That is, the programs are designed to operate through existing institutions. New funds are channelled to these institutions and responsibility for the programs is assigned to these institutions. Such a strategy assumes that our city school systems are structurally sound and that just the introduction of new money and modern ideas can effectively rehabilitate urban education. Not surprisingly, assumption is strongly endorsed by most members of the educational establishment in the cities. Efforts to create new institutional arrangements are therefore resisted.

An alternate assumption is that existing constitutional and legislative arrangements and the governance of urban schools are inappropriate to the needs and demands of contemporary society. Support for such an assumption can readily be drawn from a glance at changes that have occurred in our cities. Today's forms of urban school government were devised in an era when cities were the centers of wealth, when their population included large proportions of middle-class and upper-class families, when urban economies could absorb school dropouts, when neighborhoods were relatively stable, and when this teaching corps was smaller, more docile, and less highly trained than it is today; existing conditions are different. Additional support for the alternate assumption appears daily in the press; students, teachers, community groups, legislators, and others are demanding fundamental changes in the governance of urban education. Within our urban school systems there appear to be thousands of dedicated and talented educators who want to improve the quality of urban education but who feel hamstrung by the systems in which they work. There must be additional thousands outside the systems who would like to improve urban schooling but who feel excluded by the existing systems or who are unwilling to make the accommodations required of those who work within the existing systems.

I am persuaded that urban school governance indeed does require major structural reform. Times have changed. Disaffection with the present system is so widespread that we must—whatever our sympathies with the established patterns and however much we admire past accomplishments—examine the possibility that new forms of governance are needed. Those who are disaffected by the present system must be infused with new hope. Those who are frustrated by the present system must be provided with more receptive channels for action. Those who are excluded from the present system must be accommodated. Accomplishment of these goals requires not merely new funds but also new forms of urban school government. We should direct our energies not just to shoring up the old systems but also to the task of reforming those systems so as to increase their capacity to deal with today's problems.

If structural reform is to occur, Congressional support is vital. Urban school systems are not likely to undertake voluntary reform of a fundamental nature. State legislatures have not demonstrated great enthusiasm or capacity for reforming urban school systems (perhaps because of the well-documented political power of the educational establishments in the States). Moreover, the whole issue of urban school governance is shrouded by myths and rhetoric which must be exposed before structural reform can take place; Congressionally-sponsored hearings on urban school governance can help provide the climate of thought essential to any significant reform. Congressional legislation can provide the incentive for efforts to devise, support, and test new forms of urban school government.

THE ISSUE: WHO SHOULD CONTROL THE SCHOOLS?

Public schools in our large cities are under the legal control of centralized boards of education. These boards, which are really arms of the State governments, disburse the funds which are used in our urban schools, employ the managerial and instructional personnel of the schools, and legitimatize the curricula to which children are exposed in school. Despite modest differences in board compositions, personnel policies, fiscal arrangements, partisanship, and other details, the dominant features of urban school governments today are centralization, bureaucratization, and concentration of power in downtown offices. Initiatives for change have had to be channeled through the system.

Until quite recently, this established pattern of urban school governance seemed to make a good deal of economic, political, social, and educational sense. The pattern seemed to work; deficiencies could be attributed primarily to lack of funds or ideas rather than to structural flaws. Solutions to programs were assumed to lie in programmatic changes rather than in structural change.

Today, however, big city school systems are not being asked merely to improve the schools. They are being asked to divest themselves of the power to do so. Individuals and groups outside the present decision-making structures are insisting upon a share of the power to direct urban education. The reasons for this new condition are not hard to find. One is that several groups—teachers, the poor, the black, and the students—have suddenly and simultaneously abandoned their passive political roles. They now seek to participate in fundamental education decisions, and they find that they cannot do so under present structural arrangements. Second, many of the school reforms of the past decade have not benefited these newly politicized groups. For example, national curriculum projects have had more impact on suburban than urban school systems. The gap between urban and suburban school spending has increased rather than decreased. Moreover, some of the reforms that have been undertaken have been ill-conceived, over-publicized, and under-financed to such an extent that the established control structure now has a real credibility problem. Third, there is growing conviction that effective education requires that students, parents, and teachers have a sense of participation and control in the provision of educational experiences; this sense of autonomy or power is difficult to develop or sustain under present forms of school governance. Fourth, of course, we live in an uncommonly troubled era when the established arrangements are being questioned in all sectors—the churches, the family, the universities, the welfare agencies, and many others. The schools, as one of the most visible and important social institutions, could hardly expect to escape such scrutiny.

There are a number of groups which contend that *they* should control urban schools. While the groups are not entirely distinct, and while they are beset by internal conflicts, it is nonetheless possible to discern at least seven major contenders for control:

1. *The Establishment.*—The establishment, i.e., the boards of education and their central staffs, maintains that it has a long record of accomplishments, that current deficiencies in the schools are primarily due to lack of funds, that the present system is highly efficient, and that it is legitimatized by state laws which it is powerless to change.

2. *Teachers.*—Due in part to Congressional support for improved teacher training, more and more of today's classroom teachers feel themselves to be professionals with considerable expertise in classroom management and instruction. If the teacher is to be fully effective,

therefore, he needs to have more control over the selection and organization of classroom experiences.

3. *Students.*—More and more high school and junior high school students have been seeking greater control through the use of boycotts, strikes, rallies, petitions, and other devices. Their search applies not only to outwardly trivial matters, such as dress, but also to fundamental matters, such as control over teacher selection, curriculum content, out-of-class conduct, and so forth.

4. *The State.*—In the past generation we have recognized that many of the problems of education do not originate within the jurisdiction of Local boards, nor can they be solved there. Thus, through programs such as the Education Commission of the States, and Title V of the Elementary and Secondary Education Act of 1965, efforts are being made to strengthen the leadership capabilities of the State education agencies vis-à-vis the cities.

5. *The National Government.*—Whether under the guise of defense or welfare or due process, and in spite of Congressional acknowledgement of the importance of Local control, there is no doubt that the national government has directly sought increased participation in the governance of urban education. A developing alliance between Washington and the cities has had a clear impact upon urban schooling.

6. *The Community.*—The rationale for community control of urban schools is a straightforward one: the residents of a community are the best judges of the appropriateness of teachers and curricula for that community. Community residents are citizens not subjects. They should feel like owners rather than tenants within the schools. Thus urban communities must have greater voice in the control of their schools.

7. *The Corporate World.*—In the past decade there has been increasing recognition in the business community that schooling, like defense, is an enormous economic operation and that some elements of schooling are amenable to business modes of operation. The business world cannot only provide the customary facilities, materials, and equipment; it can also operate learning programs.

We need to devise a system of urban school governance which distributes real power among groups as diverse as the existing establishment, teachers, students, State and national governments, communities, and the corporate world.—Such a system would permit the absorption and articulation of resources which are now lying idle or are being used to undermine existing programs. A sense of partnership among the several groups interested in urban education should help restore an affective ingredient which is vital to effective education: a sense of participation. Without the utilization of all possible resources, and without the necessary sense of participation, I see little hope for urban education and little hope for our cities.

INITIAL STEPS

A number of steps have already been taken toward reconstruction of the legal arrangements for the governance of urban schools. More and more States are authorizing or requiring boards of education to enter into collective contractual relationships with teachers; these relationships apply not only to salaries and working conditions but also to teacher control over learning experiences. In the universities and increasingly in the schools students are attaining greater power and position in educational matters. State governments are intervening in urban school affairs more and more forcefully, as in New York State, where the legislature has mandated massive reorganization of the New York City schools. National programs, through legislative requirements and administrative guidelines, have led to the creation of new agencies (e.g., the governing boards of ESEA Title III projects) and the modification of existing agencies (e.g., the inclusion of neighborhood groups in the development of Model Cities educational programs). The corporate world has been involved in the operation of Job Corps programs, and, most recently, in subcontracts for the provision of specified learnings (the Texarkana project).

Steps such as these have been modest ones. They have proceeded without reference to any overall design for the governance of urban school systems. Nonetheless, these steps have forced us to question conventional ideas about who is an expert and who is not, to challenge established patterns of bureaucratized procedure, and to develop procedures for the management—instead of the suppression—of conflict. We have begun, in short, to challenge the conventional wisdom and the conventional pattern of urban school governance. The task before us is to create the conditions and to provide the resources for further development of new forms of urban school governance.

THE ROLE OF CONGRESS

Many will argue that Congress has no right to participate in the development of new systems for governance of urban schools. The responsibility, it will be said, rests with the States. It is bad enough that the national government exercises some control of programs operated through existing agencies; it is unthinkable that Congress should participate in the development of new educational institutions for our cities.

I find myself unpersuaded by such arguments. The plight of our urban schools is too severe to permit exclusion of any group which may contribute to improvement of the situation. Moreover, Congress is situated in a position which permits it to make two fundamental contributions to the task of restructuring our urban school systems. First, Congress can serve as a unique forum for a badly-needed national dialogue about urban school governance. Second, Congress can pass legislation which will assist in the trial, evaluation, and implementation of new mechanisms for urban school governance.

A NATIONAL DIALOGUE

From time to time Congress plays a vital part in the development of public and official thinking about major social problems. I believe the time is now ripe for a major dialogue about governance of our urban school systems. Such a dialogue can serve four key functions. First, it can dispel myths which interfere with perceptions of reality. Second, it can help distinguish between empty rhetoric and careful analysis. Third, it can expose hidden motives. Finally, it can bring diverse groups and individuals into face-to-face contact. Each of these functions must be served if we are to proceed with the task of designing comprehensive new structures for governing urban education.

There are a number of myths which distort our perceptions of urban school governance. One such myth is that the schools are locally controlled. In fact, the schools are legal creatures of the State governments and resolution of many issues of control is dependent upon State action rather than action by urban boards of education. However, even the concept of State control is misleading; it is true in the legal sense, but it ignores powerful social and economic forces which may be far more influential than State legislation in shaping the destinies of school systems. We need a much clearer conception of the forces affecting learning and teaching in our cities. Simplistic notions about control are inaccurate and misleading.[1]

A second myth is that teaching is a genuine profession and should therefore enjoy the prerogatives of other professions. A contrary myth is that teaching never was and never can be highly professionalized because of the organizational context of teaching, the limited scientific base of teaching, and the career patterns of teachers. We urgently need a clearer picture of the potential and the limitations of urban teachers as decisionmakers.[2]

A third myth concerns the qualifications of learning. Sometimes this myth suggests that few if any of the products of schooling can be properly qualified. Sometimes the myth suggests that virtually all the products of learning can be quantified; proponents of testing programs and budgeting systems, for example, all too often base their cases on unproven or untested contentions about quantification.[3]

A fourth myth is a form of demonology: somewhere there is an "elite" which "dictates" school policy and practice in order to perpetuate the interests of the elite. Some people assert that the elite is powerful social or economic groups; others claim that the educational professions are themselves the elite. However, efforts to track down the elite usually lead to the discovery of earnest, dedicated, and hard-working people struggling against great odds to do a job which is enormously complex and imperfectly understood. It seems to me that Congressional hearings and Congressionally-sponsored studies can help dispel some of the most prevalent myths and substitute for them a more adequate description of the real world of urban school government.

A second defect in recent discussion about control of urban schools has been the prevalence of slogans and exaggerated claims. "Community control," for example, is sometimes viewed as a cure-all. There is little doubt that increased community control could resolve some fundamental problems of our urban schools, but there are some problems for which community control is hardly relevant and still other problems (e.g., desegregation) where community control might be counterproductive. Another slogan—"decentralization"—has been used not only to describe straightforward efforts to seek genuine local participation but also to describe efforts which simply erect another layer of administrators between local communities and central offices of city school systems.

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[1] Two useful efforts to describe the forces affecting urban education are the following: Morris Janowitz, *Institution Building in Urban Education* (New York: Russell Sage Foundation, 1969); The Metropolitan Studies Program, Maxwell Graduate School, Syracuse University.

[2] Some clarification is provided in Alan Rosenthal, *Pedagogues and Power: Teaher Groups in School Politics* (Syracuse: Syracuse University Press, 1969). See also Louis M. Smith and William Geoffrey, *The Complexities of an Urban Classroom* (New York: Holt, Rinehart and Winston, Inc., 1968).

[3] A number of cities are currently investigating the merits and the limitations of various methods of cost analysis and program budgeting. These efforts should contribute to our understanding.

"Equality of educational opportunity" is rapidly becoming a slogan and hence losing its utility as a guidepost for action. Within the educational enterprise curricular and instructional activity has long been encumbered by phrases whose meanings are obscure or nonexistent. "Individualized learning," "ability grouping," "team teaching," "learning centers," and "new curricula," have become slogans without clear empirical referents, or, more often, new terms for established patterns of operation. Slogans, like myths, may play a useful part in the perpetuation or change of our social fabric.

However, if we are to engage in an activity as vital as restructuring our urban school systems, we can ill afford to be misled by meaningless or distorted concepts. Here again it seems to me that Congressional hearings and Congressionally-sponsored studies can help cut through verbal thickets to what (if anything) lies beneath, and can help us call things by their right names.

A third difficulty with recent dialogue about the schools is that it has sometimes been subverted by those who are not particularly interested in the improvement of our urban schools or, for that matter, in the improvement of education in any form. On the radical side, there are some leaders—both student and adult—who have seized upon the issue of school control as a means for obtaining public visibility or public support. On the conservative side there are some leaders who view the issue of school control as a means for diverting attention from the fact that our urban schools—no matter how they are controlled—are seriously underfinanced. Still others seize upon the control issue as one of law and order, arguing that efforts to alter the existing control structure are threats to social order and justice. Again it seems to me that the mechanism of Congressional hearings is admirably suited to the task of exposing motives for what they are, and of identifying those spokesmen who represent special interests and those who are genuinely concerned with the improvement of our urban schools.

A fourth function that could be served by Congressional hearings is to bring the several contenders for control into face-to-face contact. Far too much of the current "dialogue" takes the form of pronouncements and resolutions addressed to the press or to the already converted. Too little takes the form of direct interaction among contending groups. Since many of these groups are organized at the national level, and since many others would readily agree to participate in public debate under Congressional auspices, hearings seem particularly appropriate.

Legislative action

A second vehicle for Congressional participation in the development of new arrangements for the governance of urban schools is, of course, the passage of legislation which fosters the invention, trial, and evaluation of new forms of governance. A number of ideas have already been advanced; the task now is to encourage their implementation and dissemination. Let me cite some of the ideas which seem to merit serious consideration:

1. Several of the groups which have vital stakes in urban schooling, e.g. students and teachers, are usually unrepresented or underrepresented on governing boards. Representatives of such groups could be added to the boards.
2. Membership on governing boards could be arranged so as to incorporate rather than to exclude representatives of conflicting educational ideologies and philosophies. Such built-in opposition could have salutary effects not only upon public thinking but also upon those charged with the operation of the schools.[4]
3. Genuine decentralization plans, which give real power to community groups and to professional groups within the overall system, are badly needed. New York City, of course, is already proceeding in this direction. Decentralization will probably need to be coupled with procedures for establishing large regional districts which would be responsible for the operation of specialized schools, for educational planning, and for financing the schools.[5]
4. Contractual relationships among the several participants in urban schooling can be more fully developed. Such relationships are already coming to prominence in teacher-board relationships; they can also be developed in student-teacher relationships and in relationships between governing boards and outside agencies which may agree to provide specified educational services.
5. Ombudsmen could be employed. These individuals would be responsible for investigating grievances among teachers, students, parents, and administrators.
6. Closer ties with other social services, especially in health, welfare, and recreation, can be developed. Such ties could articulate services which are now offered in an uncoordinated fashion, and hence could increase the overall impact of all services.
7. New procedures for establishing accountability and for measuring performance can be developed and incorporated; these procedures will help to identify sources of weakness and strength and hence to pinpoint activities needing reinforcement or modification.
8. New professional and semi-professional roles need to be developed in order to provide opportunities to capitalize upon the many types of talents and interests available within the corps of people who are charged with the task of providing instruction.

These and other elements, alone and in combination, offer numerous possibilities for restructuring our system of urban school governance. The basic task remains that of inventing organizational arrangements whereby the many parties with stakes in urban education can be given opportunities for protecting their interests and for contributing to the overall task of providing effective schooling. Congress can provide legislative authorization and and financial support for efforts to create genuinely new forms of urban school governance.

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[4] A persuasive rationale for such arrangements is developed in Laurence Iannaccone's *Politics in Education* (New York: The Center for Applied Research in Education, Inc., 1967), chapter 1.

[5] A number of ideas about metropolitan school organization are presented in The Sixty-seventh Yearbook of the National Society for the Study of Education, Part I, *Metropolitanism: Its Challenge to Education* (Chicago: University of Chicago Press, 1968).

SUMMARY

Underlying the many proposals for improving our urban school system, two strategies are evident. One supports *existing* structures of school governance in their efforts to improve the quality of urban education. A second strategy calls for the invention of *new* structures for governing urban education. The second strategy was examined in this paper. New structures of urban school governance are needed to accommodate the claims of many groups which are inadequately included in existing structures. These groups include teachers, students, State and national governments, community groups, and corporate enterprises. Each has something to contribute to the resolution of the urban school crisis, provided mechanisms can be invented for the inclusion of such groups in the governance of schools. The Congress can provide two kinds of support for the invention of such structures. First, it can serve as a forum for a national dialogue which will clarify the issues and the facts of urban school governance. Second, it can sponsor innovations in urban school governance.

THE COMPUTER AND INDIVIDUALIZED INSTRUCTION*

William W. Cooley, Professor of Education and Computer Science, and Robert Glaser, Professor of Psychology and Education, Codirectors, Learning Research and Development Center, University of Pittsburgh, Pittsburgh, Pa.

One of the most important potential uses of computers in schools is their use to individualize the educational process. However, as the history of attempts at individualization indicates, little can be accomplished unless the educational process is operationally defined and translated into specific school practices. The basic requirement for this is the presentation of an instructional model which underlies and generates (i) the instructional procedures, materials, and school environment and (ii) the data and research information needed for performing the desired educational functions effectively.

Therefore, before any fruitful discussion on how the computer might facilitate such education can begin, it is necessary to specify just how individualization is to be accomplished. The instructional model can serve as the beginning of a system which can then be improved on the basis of information obtained from the model's application. If there is no model, or if it is ambiguous, it is difficult to structure operations and essentially impossible to make continuous improvements in the total educational system. It is in this light, and with this as a base for discussing the individualized school and the computer, that we present a model of educational practice which can underlie individualized instruction.

Individualized education is essentially the adaptation of instructional practices to individual requirements. Three major factors are involved, each of which defines a set of variables in the system: (i) educational goals, (ii) individual capabilities, and (iii) instructional means. *Goals are* defined to suit the individual, as when individuals choose different courses of instruction for different desired vocations. The term *individual capabilities* refers to the capabilities that

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*Reprinted from *Science*, 166 (1969), 574–582.

the individual brings to a particular instructional situation; these are influenced by prior background and schooling. *Instructional means*, which includes what is taught and how it is taught, are dictated by both the nature of the individual's capabilities and the nature of his educational goals. These three factors may change in the course of one's education or one's life, but in any particular span of time, during a specific teaching act, it is assumed that a particular educational goal or level of competence is to be attained; that the individual has particular capabilities; and that there is available a set of instructional means and conditions relevant to assessed capabilities and to criteria of competence.

Thinking about the educational process in this way suggests the following general instructional model, which is presented as a sequence of operations (*1*).

(1) The goals of learning are specified in terms of observable student behavior and the conditions under which this behavior is to be manifested.

(2) When the learner begins a particular course of instruction, his initial capabilities—those relevant to the forthcoming instruction—are assessed.

(3) Educational alternatives suited to the student's initial capabilities are presented to him. The student selects or is assigned one of these alternatives.

(4) The student's performance is monitored and continuously assessed as he learns.

(5) Instruction proceeds as a function of the relationship between measures of student performance, available instructional alternatives, and criteria of competence.

(6) As instruction proceeds, data are generated for monitoring and improving the instructional system.

The implementation of these operations requires both research and application. Various degrees of automation can be used in implementing the model. It is possible to begin without any automation at all. With a redesigned school organization and appropriate tests and materials, teachers and teacher aides can carry out individualized instruction in a particular school. The system known as Individually Prescribed Instruction (IPI), introduced at the Oakleaf School (*2*), was such a nonautomated version during its early years. The effectiveness of individualized education is not necessarily related to the degree of automation involved. However, it seems possible that automation can be a significant aid in the conduct of an individualized system and in the collection of research data on which improvements can be based.

Automation can be introduced in individualized education as a *means of assisting the teacher* in managing the process. The computer can service classroom terminals which assist the teacher in assessing the student's capabilities and prescribing a course of instruction. When automation is used in this way it is referred to as "computer-managed instruction" (CMI) (*3*). In CMI, the primary function of the computer is to assist the teacher and student in planning instructional sequences, where the actual instruction may be self-instruction packages (automated or not) or more conventional instruction. On the other hand, when the computer is used by the student as a *means of instruction*, the term commonly used is "computer-assisted instruction"

(CAI). Both CMI and CAI carry out educational functions. CMI can be used without CAI, but if CAI is used, the information necessary for CMI is usually present. CMI will probably precede CAI in the evolutionary individualization of a school.

The general instructional model presented can be implemented in any one of three modes: nonautomated instruction, CMI, or CAI. It is highly probable that increasing levels of automation can improve individualized education, but only if more is learned about adapting education to individual requirements. A CMI system can obtain such information in addition to being used for operational implementation. The nonautomated version (IPI, during the early years of its use at the Oakleaf School) represents a first application of the general instructional model. After a period of pilot work, CMI is being introduced at the school to speed up collection and analysis of the data required for the design of an improved system.

Instructional Decision-Making

All teaching involves decisions about how instruction should proceed. Individualized instruction requires instructional decisions relevant to each student. The differential decision-making function in individualized instruction is a central issue. These decisions require a great deal of information about the individual student, such as the following. (i) What criteria of competence should be applied? These criteria have traditionally been stored in the form of test grades, teacher judgments of quality, and so on. (ii) What is the student's background? This information has been stored in the student's written record, in the form of intelligence-test and aptitude-test scores. (iii) How does a student proceed in his learning? This information is usually based on the teacher's impression of the student as slow or fast, attentive or inattentive, and is rarely documented. (iv) What instructional means are available for teaching certain lessons? These have been catalogued in the teacher's head or on a resources list. In the model of individualized instruction envisioned here, a sizable amount of information is needed for each student on a daily basis. It is obvious that the teacher will need assistance of some kind in storing, and acting upon, such data.

A computer management system has as its objectives the collecting and processing of information on each student and the supplying of this information to the teacher in summarized form such that it is directly applicable to human decision-making. It is possible that, at each decision point, data can be summarized for the teacher at his request, or supplied to him on a regular basis. It also seems possible that such information, in a form different from that in which it is supplied to the teacher, can be supplied to the student and used by him in choosing or discussing with the teacher his next instructional sequences. With this approach, the teacher's time can be reserved for the most subtle and difficult educational decisions. The computer can be programmed to suggest decisions to the teacher, based upon analysis of the learning process and of past experience with similar students. The teacher can then decide whether to accept, revise, or reject the recommendation.

We should emphasize the fact that the primary function of the computer in a CMI system is to make possible more complicated decision processes than would be possible without the computer, and to do this on a continuous basis. Automation cannot be justified if the computer is used simply to keep records. Clerks tend to be cheaper record keepers than computers. In an individualized system, the teacher continuously needs information and assistance in making instructional decisions. By providing decision tables in the computer, help can be given the teacher on a continuous basis. The computer itself is not making the instructional decisions. The computer is the means whereby the psychologist and the teacher can work together on a day-to-day basis to provide a continuously improving system of decision-making.

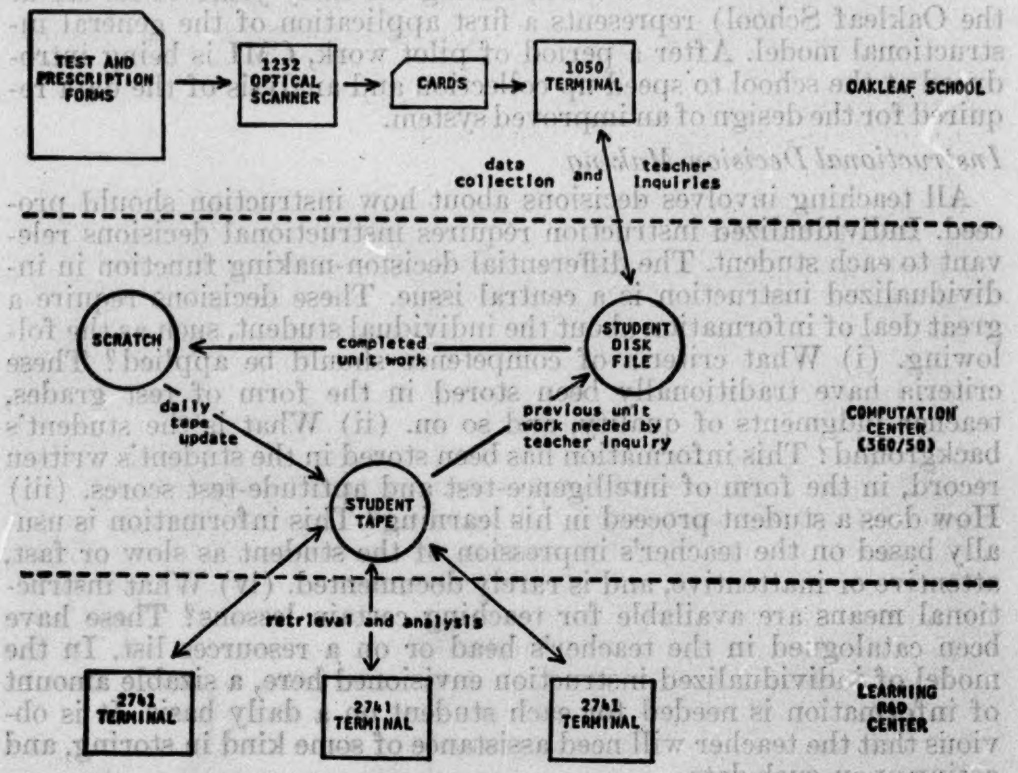

TEST AND PRESCRIPTION FORMS
1232 OPTICAL SCANNER
CARDS
1050 TERMINAL
OAKLEAF SCHOOL
data collection and teacher inquiries
SCRATCH
completed unit work
STUDENT DISK FILE
daily tape update
previous unit work needed by teacher inquiry
COMPUTATION CENTER (360/50)
STUDENT TAPE
retrieval and analysis
2741 TERMINAL
2741 TERMINAL
2741 TERMINAL
LEARNING R&D CENTER

Fig. 1. Major aspects of IPI/MIS.

Implementation of the Model

Let us examine the procedures that would be followed in an individualized school proceeding according to the model mentioned above. The system is oriented around the instructional decisions required for adapting the educational environment to the student. The procedures involved supply information about the student to both the teacher and the student; also, information is supplied concerning the effectiveness of the procedures and materials that are used in the school.

(1) *Specification of goals, subgoals, and decision nodes.* Educational goal-setting is a complex problem that cannot be ignored; goals are inevitably involved, whether explicitly or implicitly, whenever instruction takes place. The educational technologist does not set the goals for American education. Instead, his task is to identify goals

that are valued in his society and then to develop the procedures for achieving those goals. When he has finished his task he can say to educators, parents, and students, "In order to attain goal A, consider doing X, Y, and Z." The eventual result is a variety of goals from which the learner is free to select and for which instructional means are defined and made available.

Schools must provide not only the means for attaining various goals but also the mechanism whereby goals can be identified or selected for each student. Although selecting goals is often seen as a guidance function differentiated from subject-matter teaching, the two functions are not separable. The guidance technology required to institute a system of goal setting for the individual must be defined and implemented if the school is to offer the means of attaining alternative goals and alternative paths toward these goals. No one will argue that all students should have the same educational goals or that goals must remain constant for a given student, although it is probably true that elementary school, directed as it is toward the teaching of fundamental skills and knowledge, permits less freedom for goal-setting than later schooling does. Up to a point, in the individualized elementary school, the choice is more among instructional means than among ultimate goals (*4*).

The goals specified for a given student imply a series of subgoals. The arrangement of these subgoals is a function of the structure of the subject-matter goals that have been selected, the approach of the course designer to the subject matter, and the instructional path that the student elects or that his performance suggests. Different students may follow different paths through these subgoals, so for any particular individual the subgoal may be omitted, added to, recombined, or rearranged. These changes take place as a function of instructional alternatives. These are discussed below; we should make the point at this time, however, that the subgoals provide nodes at which instructional decisions are made by the teacher with the aid of the psychologist, by way of the computer. Experience and research data serve to "validate" subgoal hierarchies, permissible paths, and so on. Specifying subgoals essentially involves describing student behavior and ways of measuring it. The data obtained serve to establish the degree of effectiveness with which this is done.

(2) ***Measurement and diagnosis of the student's initial state or behavior on entering an instructional situation.*** Initial diagnosis requires two kinds of information: long-term history and short-term history. Long-term history refers to information on characteristics such as intelligence and aptitudes. Short-term history refers to the student's performance during recent instruction in relevant subject matter. In a CMI system, a teacher would have access to a file of test information (both long-term and short-term) from a computer terminal and would be able to ask specific questions about the characteristics of each student. Then the computer could be used to give subject-matter placement tests pertaining to the course of instruction, and the results would be put in the student's record. The teacher would examine the data and make decisions about student placement. Or suggested place-

ment decisions could be displayed for the teacher, who could accept, reject, or amend the suggestions on the basis of a perusal of the record.

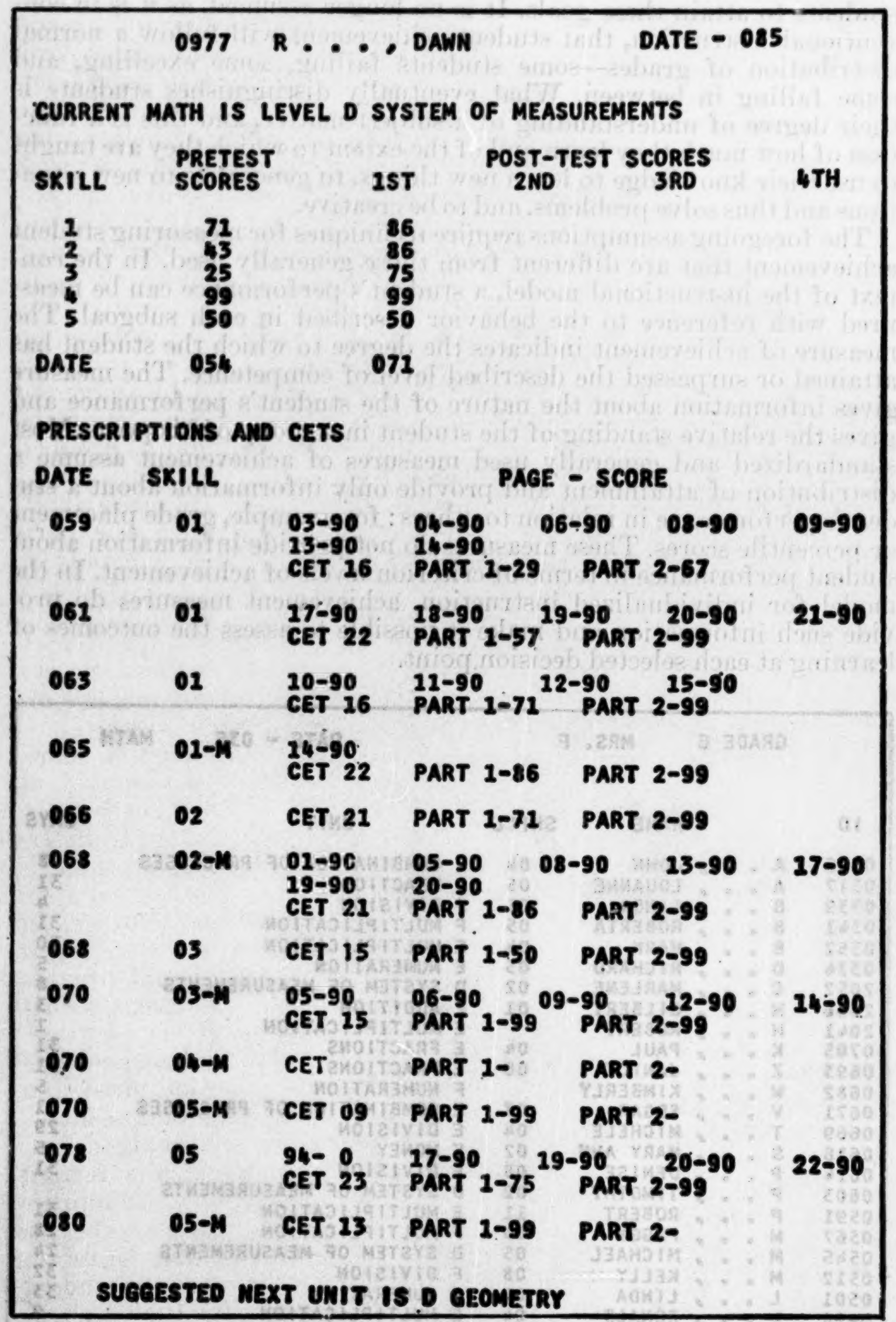
The necessary research for developing this aspect of an individualized system would be study of the reliability of the placement tests and their relationship to instructional decisions in terms of helping the student achieve maximum learning efficiency and motivation. As such information was obtained placement decisions could become increasingly useful.

(3) *The assignment of instructional alternatives.* On the basis of the information obtained from the diagnosis discussed in step 2, a student is assigned, guided to, or allowed to select means of instruction. In CMI, the range of instructional alternatives could be displayed on the classroom terminals for either the student or the teacher to choose from. Various allocations of teaching resources could be suggested to the teacher, through displays indicating which students might be available to tutor other students and which students might be grouped together for a discussion or a teacher presentation.

A basic question is what instructional alternatives are made available and how they are decided upon. Alternative instructional experiences might involve different content relevant to different subgoals, or they might utilize different instructional procedures. The student's placement test scores can indicate his present level of accomplishment and his mastery of prerequisites. Measures of general intelligence may suggest whether or not he requires more closely or less closely sequenced instruction and whether or not he can effectively manage his own progress. However, these relationships are far from clear.

Aptitude measures of the kind typically used today may be somewhat predictive of long-term academic and vocational success and, as a result, may assist the student in the selection of vocational goals. Such aptitude measures, however, appear to be less relevant in determining immediate instructional requirements. For example, there is little information available about whether spatial or mechanical aptitude is related to particular ways in which the student learns. In contrast, measures of the student's behavior obtained in the course of instruction, as performance is continuously assessed, should provide better information about the kinds of instructional alternatives that should be made available to him.

(4) *Continuous monitoring and assessment.* As a student proceeds along the course of instruction, his performance is monitored and continuously assessed in terms of the established decision points. Measures similar to those used to assess initial placement are obtained, but, in addition, new measures are obtained which are specifically related to the student's learning characteristics. For example, how much practice does he require? What kind of instructional alternatives does he enjoy? Is he slow and steady, or impulsive? How well does he retain what he has learned? Information of this kind, updated as the student progresses, should provide the primary information for the decision-making required to guide student learning. This information would incorporate and supersede initial long-term aptitude measures and placement information.



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        0977   R . . . , DAWN              DATE - 085

CURRENT MATH IS LEVEL D SYSTEM OF MEASUREMENTS

          PRETEST                  POST-TEST SCORES
SKILL     SCORES          1ST      2ND       3RD          4TH

  1         71            86
  2         43            86
  3         25            75
  4         99            99
  5         50            50

DATE       054            071

PRESCRIPTIONS AND CETS

DATE      SKILL                    PAGE - SCORE

059       01        03-90     04-90     06-90     08-90     09-90
                    13-90     14-90
                    CET 16    PART 1-29    PART 2-67

061       01        17-90     18-90     19-90     20-90     21-90
                    CET 22    PART 1-57    PART 2-99

063       01        10-90     11-90     12-90     15-90
                    CET 16    PART 1-71    PART 2-99

065       01-M      14-90
                    CET 22    PART 1-86    PART 2-99

066       02        CET 21    PART 1-71    PART 2-99

068       02-M      01-90     05-90     08-90     13-90     17-90
                    19-90     20-90
                    CET 21    PART 1-86    PART 2-99

068       03        CET 15    PART 1-50    PART 2-99

070       03-M      05-90     06-90     09-90     12-90     14-90
                    CET 15    PART 1-99    PART 2-99

070       04-M      CET       PART 1-      PART 2-

070       05-M      CET 09    PART 1-99    PART 2-

078       05        94- 0     17-90     19-90     20-90     22-90
                    CET 23    PART 1-75    PART 2-99

080       05-M      CET 13    PART 1-99    PART 2-

    SUGGESTED NEXT UNIT IS D GEOMETRY
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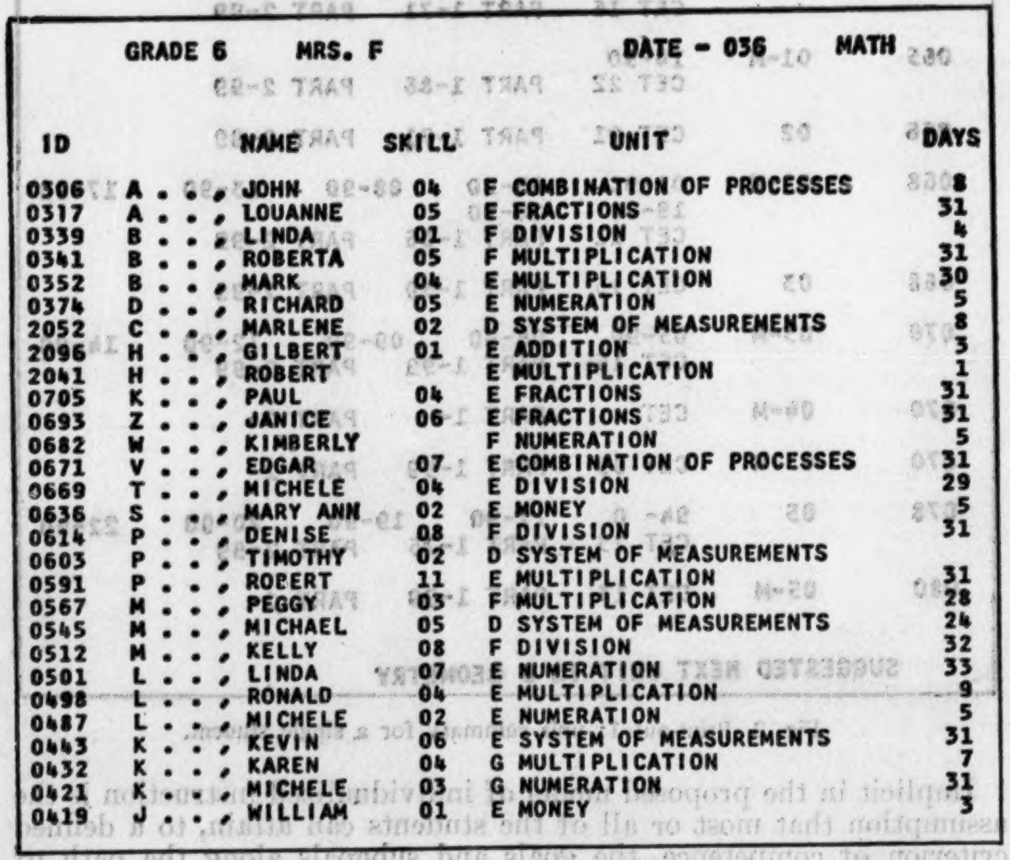
Fig. 2. Print-out 1: unit summary for a single student.

Implicit in the proposed model of individualized instruction is the assumption that most or all of the students can attain, to a defined criterion of competence, the goals and subgoals along the path of learning. The basic task in adapting instruction to individual differences is to determine the methods and materials that will enable most students to attain these goals. It is no longer assumed, as it is in conventional instruction, that student achievement will follow a normal distribution of grades—some students failing, some excelling, and some falling in between. What eventually distinguishes students is their degree of understanding of a subject matter, and this is a function of how much they learn and of the extent to which they are taught to use their knowledge to learn new things, to generalize to new situations and thus solve problems, and to be creative.

The foregoing assumptions require techniques for measuring student achievement that are different from those generally used. In the context of the instructional model, a student's performance can be measured with reference to the behavior described in each subgoal. The measure of achievement indicates the degree to which the student has attained or surpassed the described level of competence. The measure gives information about the nature of the student's performance and gives the relative standing of the student in a group of his peers. Most standardized and generally used measures of achievement assume a distribution of attainment and provide only information about a student's performance in relation to others: for example, grade placement or percentile scores. These measures do not provide information about student performance in terms of criterion levels of achievement. In the model for individualized instruction, achievement measures do provide such information and make it possible to assess the outcomes of learning at each selected decision point.



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        GRADE 6     MRS. F                      DATE - 036     MATH


 ID                 NAME     SKILL          UNIT                        DAYS

0306   A . . , JOHN          04    F COMBINATION OF PROCESSES            8
0317   A . . , LOUANNE       05    E FRACTIONS                          31
0339   B . . , LINDA         01    F DIVISION                            4
0341   B . . , ROBERTA       05    F MULTIPLICATION                     31
0352   B . . , MARK          04    E MULTIPLICATION                     30
0374   D . . , RICHARD       05    E NUMERATION                          5
2052   C . . , MARLENE       02    D SYSTEM OF MEASUREMENTS              8
2096   H . . , GILBERT       01    E ADDITION                            3
2041   H . . , ROBERT              E MULTIPLICATION                      1
0705   K . . , PAUL          04    E FRACTIONS                          31
0693   Z . . , JANICE        06    E FRACTIONS                          31
0682   W . . , KIMBERLY            F NUMERATION                          5
0671   V . . , EDGAR         07    E COMBINATION OF PROCESSES           31
0669   T . . , MICHELE       04    E DIVISION                           29
0636   S . . , MARY ANN      02    E MONEY                               5
0614   P . . , DENISE        08    F DIVISION                           31
0603   P . . , TIMOTHY       02    D SYSTEM OF MEASUREMENTS
0591   P . . , ROBERT        11    E MULTIPLICATION                     31
0567   M . . , PEGGY         03    F MULTIPLICATION                     28
0545   M . . , MICHAEL       05    D SYSTEM OF MEASUREMENTS             24
0512   M . . , KELLY         08    F DIVISION                           32
0501   L . . , LINDA         07    E NUMERATION                         33
0498   L . . , RONALD        04    E MULTIPLICATION                      9
0487   L . . , MICHELE       02    E NUMERATION                          5
0443   K . . , KEVIN         06    E SYSTEM OF MEASUREMENTS             31
0432   K . . , KAREN         04    G MULTIPLICATION                      7
0421   K . . , MICHELE       03    G NUMERATION                         31
0419   J . . , WILLIAM       01    E MONEY                               3
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Fig. 3. Print-out 2: class list showing how long each student has been working in his current unit.

(5) *Adaptation and optimization.* As the student learns, information is obtained about the characteristics of his learning, instructional assignments are made, and his performance at the subgoal decisions points is assessed. This procedure is carried out continuously throughout the course of instruction. Of obvious importance is the nature of the criterion measures of performance at the subgoals. Since the measures of the student's learning history are expressed, and the instructional alternatives are evaluated, in terms of his subgoal performance, the question of which measures of mastery are selected becomes critical. Depending upon the measures used, some gains will be fully recognized and others overlooked; some kinds of student performance may be inadvertently overlooked unless they are stated as goals and explicitly assessed. It is for this reason that the model requires criterion reference measures of the desired outcomes of education. The continuous pattern of assessment and instructional prescription is a multistage decision-making process which is directed toward establishing the most effective sequence of instruction, as judged by the student and the teacher, for attaining selected educational goals.

In practice, an underlying concept of the way in which learning proceeds influences the interaction between outcome measures, instructional variables, and individual learning characteristics. Different measures and different instructional alternatives can provide a very large number of possible learning paths; however, many of these paths are ruled out if constraints are supplied concerning the way in which learning occurs. In a nonautomated individualized system the teacher's concept of the learning process influences the decisions he makes, and the information with which he is supplied also provides constraints. In CMI, the displays to the teacher and any more detailed suggestions presuppose concepts about the nature of learning, and since both teacher and computer are involved, the concept built into the system and the teacher's concepts interact.

(6) *Evolutionary operation.* A primary property of the instructional system described here is the fact that it accumulates information which is used to improve its own functioning. Improvement takes place in two ways: (i) The system uses procedures and materials in keeping with the current state of knowledge, and, through data obtained during the operation of the system, these procedures and material are made more efficient; (ii) new knowledge about the learning process and about the conduct of individualized instruction that can be obtained. Since each individual's learning is carefully monitored, the system makes it possible to explore a variety of research questions. In fact, when the system is first used there should be excess monitoring for this purpose; as it becomes operational, less information is needed.

A plan for research and development in individualized instruction at the Learning Research and Development Center (LRDC) at the University of Pittsburgh includes the transition from a nonautomated individualized procedure to a CMI system which eventually will include CAI as one available means of instruction. Nonautomated IPI forces redesign of the organization of the school. It also calls for detailed information about the individual student. This has facilitated the introduction of teacher-inquiry terminals to be used for CMI. After the teachers have become familiar wih the potential of computers, various computer-based components in various areas can be introduced. The general instructional model described above should permit incorporation of each of these components as appropriate knowledge and technology becomes available.

IPI as an Implementation of the Model

In Individually Prescribed Instruction, the entire curriculum in each subject area is broken down into instruction units for subgoals of achievement. For example, the mathematics curriculum has identified 430 specific instructional objectives. These objectives are grouped into 8 units. Each unit is an instructional entity which the student works through at any one time. On the average there are 5 objectives per unit, the range being 1 to 14. A set of units covering different subject areas in mathematics comprises a level; levels may be thought of as roughly comparable to a school grade level. On entering the school the student takes a placement test; on the basis of his performance he is placed in a particular unit. If his placement test profile is scattered, he begins work on the lowest-numbered unit. Associated with the unit are a preliminary test (a "pretest") and a post-training test (a "posttest"), and associated with each objective (or skill, as it is called in the subsequent printouts) are one or more "curriculum embedded tests" (CET). Following assignment to a unit, the student takes the unit pretest, designed to give an evaluation of his skills within the unit. For example, he may have mastered skills 1, 2, 4, and 5, but not 3, 6, 7, and 8; at this point the teacher prescribes work related to the skills he has not mastered. As a student works through a lesson, he takes, at the teacher's discretion, the "curriculum-embedded test," which shows whether or not he has mastered the skill and also to what extent he has attained some competence on the next skill. When he has attained all the objectives he takes the unit posttest. If his grade is 85 percent or more, he begins work on the next unit; if it is not, he is reassigned an appropriate objective in the unit he has been working on. The teacher is allowed a certain discretion in deciding whether to keep the student in a given unit or to move him ahead.

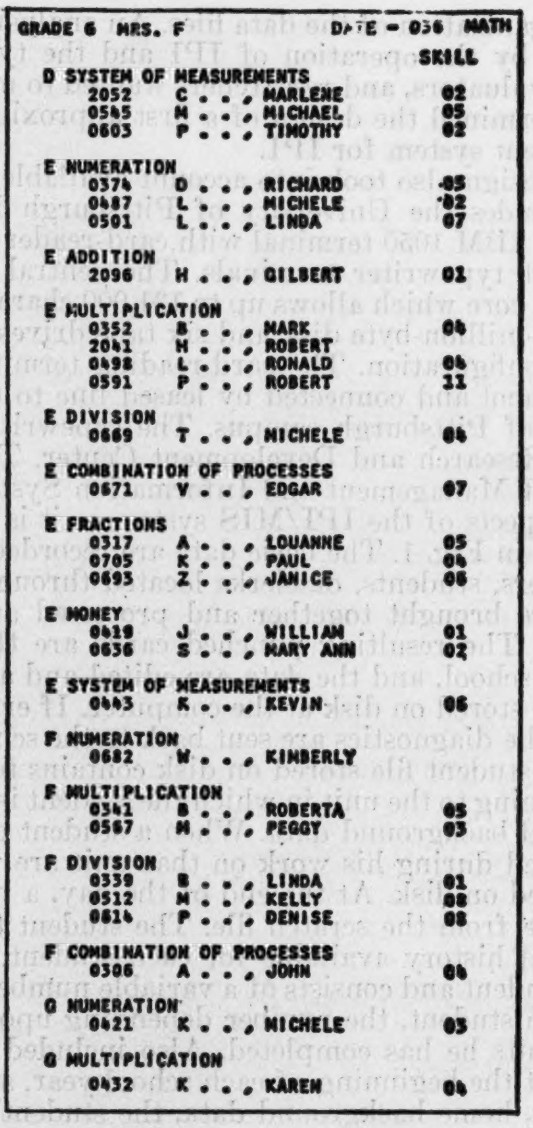
Computer Assistance for IPI

Designing and implementing a computer system to facilitate the operation and evaluation of IPI was simplified by the fact that the IPI system had already been in operation at the Oakleaf School for 3 years. The clerical operations which had evolved over that 3-year period helped to clarify the nature of the data generated and the types of questions that teachers, evaluators, and researchers tended to ask on the basis of these data. In addition, experienced staff members prepared memoranda summarizing the types of questions they wanted to ask of the IPI data base. All of this helped define the content and the organization of the data files. An analysis of the types of data generated by the operation of IPI and the types of inquiries that teachers, evaluators, and researchers wanted to make on the basis of the data determined the design of a first approximation to a computer-management system for IPI.

The system design also took into account available computer hardware. This includes the University of Pittsburgh IBM 360 Model 50 computer, an IBM 1050 terminal with card-reader attachment, and three IBM 2741 typewriter terminals. The central processing unit has an extended core which allows up to 131,000 characters per on-line terminal. A 250-million-byte disk and six tape drives are also part of the computer configuration. The card-reading terminal is located at the Oakleaf School and connected by leased line to the computer on the University of Pittsburgh campus. The typewriter terminals are located at the Research and Development Center. This CMI system is called the IPI Management and Information System (IPI/MIS).

The major aspects of the IPI/MIS system as it is operating today are summarized in Fig. 1. The basic data are recorded on optical scan forms by teachers, students, or clerks located throughout the school. These forms are brought together and processed at the IBM 1232 optical scanner. The resulting punched cards are then read by the terminal at the school, and the data are edited and added to the current student file stored on disk at the computer. If errors are detected in the editing, the diagnostics are sent back to the school terminal for correction. The student file stored on disk contains test and prescription data pertaining to the unit in which the student is currently working, and selected background data. When a student completes a unit, the data obtained during his work on that unit are written out on a scratch file stored on disk. At the end of the day, a program updates the student tape from the scratch file. The student tape contains all the instructional history available for each student. The tape file is organized by student and consists of a variable number of fixed-length records for each student, the number depending upon the number of instructional units he has completed. Also included are background data collected at the beginning of each school year, such as standardized test results, home background data, the student's sex, his homeroom, and so on.

There are four major functions which the MIS can provide in an individualized school; it can (i) collect data; (ii) monitor student progress; (iii) provide information as a basis for prescribing a course of instruction; and (iv) diagnose student difficulties. These functions have two primary objectives: to increase the effectiveness of the model for individualizing instruction and to increase the productivity of the teacher operating the IPI system.



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GRADE 6  MRS. F                  DATE - 036  MATH
                                             SKILL
  D SYSTEM OF MEASUREMENTS
      2052    C . . , MARLENE                 02
      0545    M . . , MICHAEL                 05
      0603    P . . , TIMOTHY                 02

  E NUMERATION
      0374    D . . , RICHARD                 05
      0487    L . . , MICHELE                 02
      0501    L . . , LINDA                   07

  E ADDITION
      2096    H . . , GILBERT                 01

  E MULTIPLICATION
      0352    B . . , MARK                    04
      2041    H . . , ROBERT
      0498    L . . , RONALD                  04
      0591    P . . , ROBERT                  11

  E DIVISION
      0669    T . . , MICHELE                 04

  E COMBINATION OF PROCESSES
      0671    V . . , EDGAR                   07

  E FRACTIONS
      0317    A . . , LOUANNE                 05
      0705    K . . , PAUL                    04
      0693    Z . . , JANICE                  08

  E MONEY
      0419    J . . , WILLIAM                 01
      0636    S . . , MARY ANN                02

  E SYSTEM OF MEASUREMENTS
      0443    K . . , KEVIN                   06

  F NUMERATION
      0682    W . . , KIMBERLY

  F MULTIPLICATION
      0341    B . . , ROBERTA                 05
      0567    M . . , PEGGY                   03

  F DIVISION
      0339    B . . , LINDA                   01
      0512    M . . , KELLY                   08
      0614    P . . , DENISE                  08

  F COMBINATION OF PROCESSES
      0306    A . . , JOHN                    04

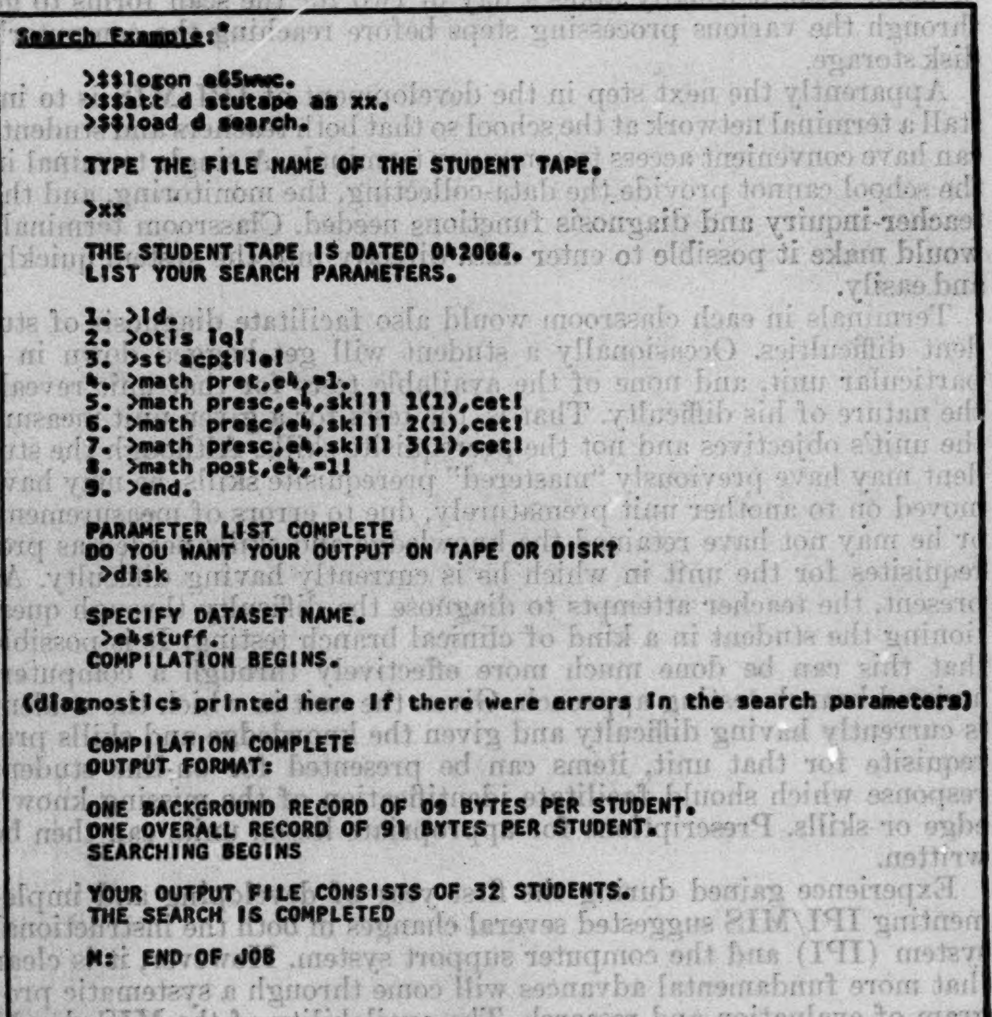
  G NUMERATION
      0421    K . . , MICHELE                 03

  G MULTIPLICATION
      0432    K . . , KAREN                   04
```

Fig. 4. Print-out 3: class list, sorting students by unit.

During the 4th year of IPI operation at the Oakleaf School, the school personnel included one principal, 12 teachers, and 12 teacher aides. The aides' primary function was to score tests and record test results. They also tabulated data pertaining to inquiries by the principal, the teachers, and the LRDC research and curriculum design staff. The teachers' three main functions have been writing prescriptions for courses of instruction, diagnosing student difficulties, and tutoring individuals and small groups of students. The clerical and teacher load can be reduced by having teachers and students enter data directly at classroom terminals. The teacher load can be further reduced by having the computer assume some of the prescription and diagnostic functions.

A description of three reports typical of those now available from the terminal at the school should help illustrate how the system is facilitating school operations. Print-out 1 (Fig. 2), which is a unit summary for a particular student (last names have been deleted), is a report of the kind most often used. A print-out of this kind is most frequently requested following failure on a posttest, so that the student's work in that unit can be reviewed and appropriate prescriptions can be made. In Fig. 2, the numerals in the group at the top summarize the student's pretest and posttest scores for each skill in the unit. Shown at the bottom of this group are the dates (the day of the school year) upon which these tests were taken. Prescriptions and "curriculum-embedded test" scores appear in the lower part of Fig. 2, again listed by date and skill. For this unit, for example, it is possible to trace what this student did in mathematics from the 59th day of school to the 80th day of school, and how well he did.



```
Search Example:*

      >$$logon e65wwc.
      >$$att d stutape as xx.
      >$$load d search.

      TYPE THE FILE NAME OF THE STUDENT TAPE.

      >xx

      THE STUDENT TAPE IS DATED 042068.
      LIST YOUR SEARCH PARAMETERS.

      1. >id.
      2. >otis iq!
      3. >st acp%ile!
      4. >math pret,e4,=1.
      5. >math presc,e4,skill 1(1),cet!
      6. >math presc,e4,skill 2(1),cet!
      7. >math presc,e4,skill 3(1),cet!
      8. >math post,e4,=1!
      9. >end.

      PARAMETER LIST COMPLETE
      DO YOU WANT YOUR OUTPUT ON TAPE OR DISK?
       >disk

      SPECIFY DATASET NAME.
       >e4stuff.
      COMPILATION BEGINS.

(diagnostics printed here if there were errors in the search parameters)

      COMPILATION COMPLETE
      OUTPUT FORMAT:

      ONE BACKGROUND RECORD OF 09 BYTES PER STUDENT.
      ONE OVERALL RECORD OF 91 BYTES PER STUDENT.
      SEARCHING BEGINS

      YOUR OUTPUT FILE CONSISTS OF 32 STUDENTS.
      THE SEARCH IS COMPLETED

      M: END OF JOB

________________
*
 Lines typed following the > were typed by the terminal user.  The
 other lines were typed under computer program control.
```

Fig. 5. Print-out 4: illustration of the tape retrieval program.

The computer report illustrated in print-out 2 (Fig. 3) summarizes all the work being done by the students in a particular homeroom. This summary of where each student is in the curriculum and how long he has been there is used in the teachers' group-planning sessions, together with print-out 3 (Fig. 4), to help decide which students have gotten bogged down and which ones might be used to help in tutoring. Also, print-out 3 provides information on which students might be brought together for group work in a unit.

One shortcoming of the present system is that the school has only one terminal, and it is in the data room and not in the classroom. The teacher who is prescribing courses of instruction on a continuous basis does not have time to send "down the hall" for the required report, so those needed reports must be anticipated by the teacher or the system, or both. Also, it usually takes a day or two for the scan forms to go through the various processing steps before reaching the computer's disk storage.

Apparently the next step in the development of IPI/MIS is to install a terminal network at the school so that both teachers and students can have convenient access to computer terminals. A single terminal in the school cannot provide the data-collecting, the monitoring, and the teacher-inquiry and diagnosis functions needed. Classroom terminals would make it possible to enter data directly into the system quickly and easily.

Terminals in each classroom would also facilitate diagnosis of student difficulties. Occasionally a student will get bogged down in a particular unit, and none of the available tests for that unit reveals the nature of his difficulty. That is, the tests for a given unit measure the unit's objectives and not the prerequisite skills. Although the student may have previously "mastered" prerequisite skills, he may have moved on to another unit prematurely, due to errors of measurement, or he may not have retained the knowledge and skills needed as prerequisites for the unit in which he is currently having difficulty. At present, the teacher attempts to diagnose the difficulty through questioning the student in a kind of clinical branch testing. It is possible that this can be done much more effectively through a computer-assisted branch-testing approach. Given the unit in which the student is currently having difficulty and given the knowledge and skills prerequisite for that unit, items can be presented for on-line student response which should facilitate identification of the missing knowledge or skills. Prescriptions for appropriate lesson units can then be written.

Experience gained during the first year of developing and implementing IPI/MIS suggested several changes in both the instructional system (IPI) and the computer support system. However, it is clear that more fundamental advances will come through a systematic program of evaluation and research. The availability of the MIS should facilitate such a program.

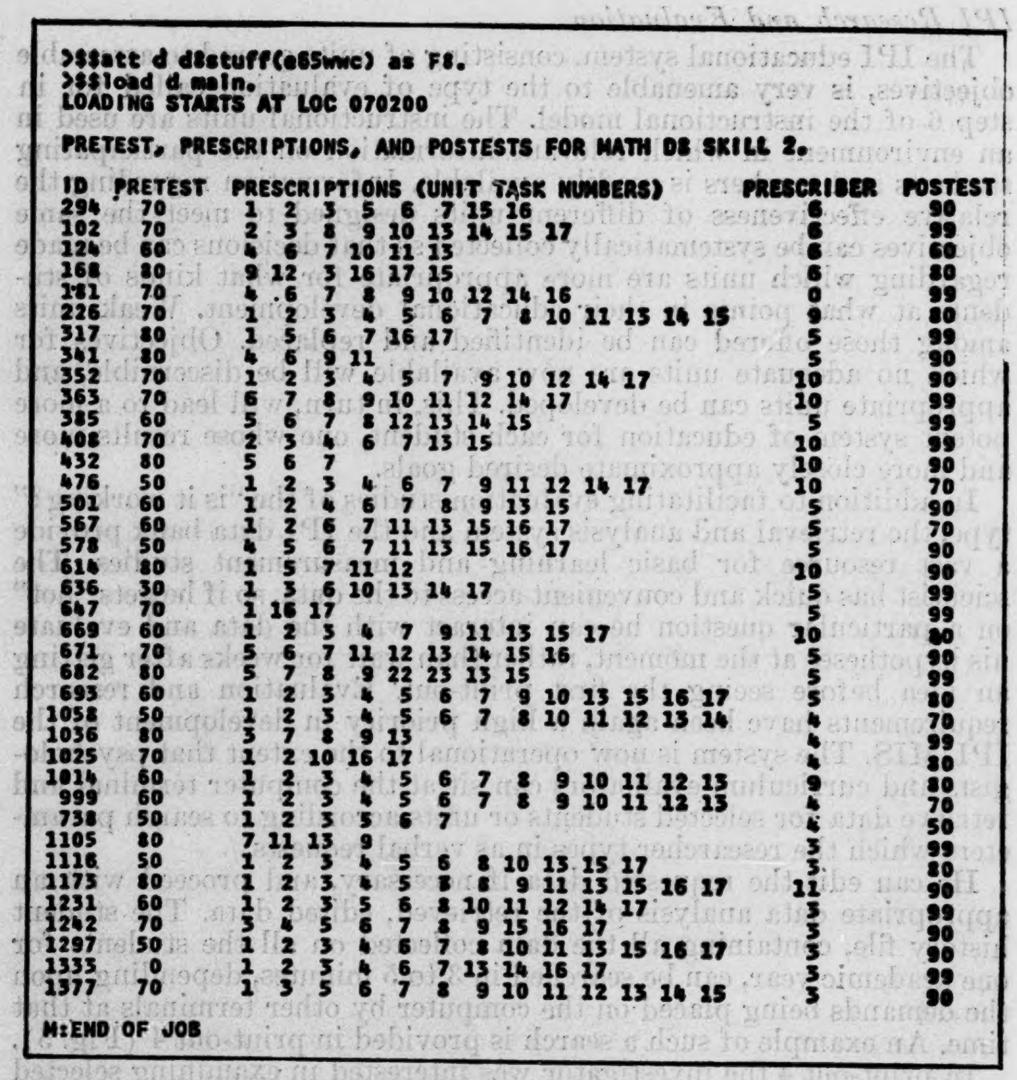
IPI Research and Evaluation

The IPI educational system, consisting of units geared to assessable objectives, is very amenable to the type of evaluation called for in step 6 of the instructional model. The instructional units are used in an environment in which relevant information on the participating students and teachers is readily available. Information regarding the relative effectiveness of different units designed to meet the same objectives can be systematically collected so that decisions can be made regarding which units are more appropriate for what kinds of students at what points in their educational development. Weak units among those offered can be identified and replaced. Objectives for which no adequate units are now available will be discernible, and appropriate units can be developed. This, in turn, will lead to a more potent system of education for each student, one whose results more and more closely approximate desired goals.

In addition to facilitating evaluation studies of the "is it working?" type, the retrieval and analysis system and the IPI data bank provide a vast resource for basic learning and measurement studies. The scientist has quick and convenient access to the data, so if he gets "hot" on a particular question he can interact with the data and evaluate his hypotheses at the moment, rather than wait for weeks after getting an idea before seeing the first print-out. Evaluation and research requirements have been again a high priority in development of the IPI/MIS. The system is now operational to the extent that psychologists and curriculum evaluators can sit at the computer terminal and retrieve data for selected students or units according to search parameters which the researcher types in as verbal requests.

He can edit the requested data if necessary, and proceed with an appropriate data analysis of the retrieved, edited data. The student history file, containing all the data collected on all the students for one academic year, can be searched in 3 to 5 minutes, depending upon the demands being placed on the computer by other terminals at that time. An example of such a search is provided in print-out 4 (Fig. 5).

In print-out 4 the investigator was interested in examining selected data for all the students who had taken the pretest in E-level subtraction in mathematics (unit e4). Line four (4.) of the search parameters is the primary selection criterion; this is indicated by the period at the end of the line. This command directs the search routine to select only those students who had taken the pretest for unit e4. The exclamation point at the end of a line indicates data to be retrieved for the selected students if it is available; for example, line five (5.) is a request for the prescription information on students who worked on the first skill in unit e4. This search resulted in a work file (called "e4 stuff" by the terminal user) for 32 students. The file contained the unit performance data for those students plus some background data requested for them—their Otis IQ scores and their Stanford arithmetic computation percentiles, if these were available in the file.



```
>$$att d d8stuff(e65wwc) as F8.
>$$load d main.
LOADING STARTS AT LOC 070200

PRETEST, PRESCRIPTIONS, AND POSTESTS FOR MATH D8 SKILL 2.

ID   PRETEST  PRESCRIPTIONS (UNIT TASK NUMBERS)          PRESCRIBER  POSTEST
 294   70      1  2  3  5  6  7 15 16                         6        90
 102   70      2  3  8  9 10 13 14 15 17                      6        99
 124   60      4  6  7 10 11 13                               6        60
 168   80      9 12  3 16 17 15                               6        80
 181   70      4  6  7  8  9 10 12 14 16                      0        99
 226   70      1  2  3  4  5  6  7  8 10 11 13 14 15          9        80
 317   80      1  5  6  7 16 17                               5        99
 341   80      4  6  9 11                                     5        90
 352   70      1  2  3  4  5  7  9 10 12 14 17               10        90
 363   70      6  7  8  9 10 11 12 14 17                     10        99
 385   60      5  6  7  8 12 13 14 15                         5        99
 408   70      2  3  4  6  7 13 15                           10        99
 432   80      5  6  7                                       10        90
 476   50      1  2  3  4  6  7  9 11 12 14 17               10        70
 501   60      1  2  4  6  7  8  9 13 15                      5        90
 567   60      1  2  6  7 11 13 15 16 17                      5        70
 578   50      4  5  6  7 11 13 15 16 17                      5        90
 614   80      1  5  7 11 12                                 10        90
 636   30      1  3  6 10 13 14 17                            5        99
 647   70      1 16 17                                        5        99
 669   60      1  2  3  4  7  9 11 13 15 17                  10        80
 671   70      5  6  7 11 12 13 14 15 16                      5        90
 682   80      5  7  8  9 22 23 13 15                         5        99
 693   60      1  2  3  4  5  6  7  9 10 13 15 16 17          5        80
1058   50      1  2  3  4  5  6  7  8 10 11 12 13 14          4        70
1036   80      3  7  8  9 13                                  4        99
1025   70      1  2 10 16 17                                  4        80
1014   60      1  2  3  4  5  6  7  8  9 10 11 12 13          9        80
 999   60      1  2  3  4  5  6  7  8  9 10 11 12 13          4        70
 738   50      1  2  3  5  6  7                               4        50
1105   80      7 11 13  9                                     3        99
1116   50      1  2  3  4  5  6  8 10 13 15 17                3        80
1175   80      1  2  3  4  5  8  8  9 11 13 15 16 17         11        90
1231   60      1  2  3  5  6  8 10 11 12 14 17                3        99
1242   70      3  4  5  6  7  8  9 15 16 17                   3        90
1297   50      1  2  3  4  6  7  8 10 11 13 15 16 17          3        90
1333    0      1  2  3  4  6  7 13 14 16 17                   3        99
1377   70      1  3  5  6  7  8  9 10 11 12 13 14 15          3        90

M:END OF JOB
```

Fig. 6. Print-out 5: data pertaining to pretests, prescriptions, and posttests for skill 2 of the mathematics-unit D division.

Current research applications of the MIS are primarily concerned with three major aspects of IPI and their interrelationships: (i) the diagnostic tests; (ii) the "prescription behavior" of teachers; and (iii) the content and sequence of the curriculum materials. In IPI's first 3 years a tremendous effort was needed to develop the necessary tests and curriculum materials. Also, teacher retraining was a large task. These developmental activities were primarily and necessarily departmentalized: a group of test specialists developed the test battery, while authorities on subject matter in the various curriculum areas developed the materials and their sequence. Other staff members worked with the teachers in developing their new mode of teaching. The real challenge now is to investigate the functioning of all these components and their interactions. The computer information system makes this large task more feasible.

For example, Bolvin (5) has observed that there is considerable variance in "prescriber behavior." Some teachers tend to assign a bare minimum of study and practice and then assign a posttest to see whether the student requires more study and practice for that particular unit; they thus go back and forth between prescription and posttest until mastery is apparently achieved. Other teachers tend to "follow the book" strictly in terms of the pretest scores; they prescribe no work if these scores are 85 percent or higher; if the scores are lower than 85 percent, the extent of the assignment is determined by the degree to which the pretest score deviates from that percentage. Still a third type of individual tends to "overprescribe"—that is, to assign students much more work than would seem to be indicated by the pretest scores.

A systematic analysis of the data involving prescriber, prescription, and subsequent student performance will help clarify the relative effectiveness of these different prescription behaviors and will suggest whether or not they should be varied for different students and different units. For example, it may be important that the student be given extensive practice in certain skills (computation, for example) so that in subsequent, more complex units requiring those skills he is not hampered through lack of retention. Print-out 5 (Fig. 6) shows data relevant to this area of concern. Note how the number of tasks prescribed varies for the same pretest scores, depending in part upon who did the prescribing.

Another line of current concern is the structure of curriculum sequences. For only ten objectives there are over 3 million possible sequences. Fortunately, most of these sequences are ruled out by content structure and by concepts of the learning process. Instructional sequences can, however, also be empirically studied. Techniques similar to multiple scalogram analysis (6) of available placement and pretest results can assist in determining whether or not the skills are being taught in the order of their difficulty and in an order that facilitates the next learning stage. It is also possible to see whether or not the extent to which failure to present skills in the order of their difficulty affects (i) the time it takes students to master that particular sequence of skills and (ii) their eventual ability to use what has been learned.

A more fundamental task which MIS can facilitate is the development of alternative forms of instruction that can be adapted to the needs of particular students. Of course, at present a student can be assigned material in which he shows a lack of mastery and need not be assigned lessons in skills that he has mastered. But, in addition, lessons may involve different kinds of vocabularies; they may involve more closely or less closely sequenced instruction; or they may involve instruction which gives the student more, or less, responsibility for managing his own progress. Essentially, the problem is to determine different instructional alternatives that are related to different patterns of learning. The goal of the IPI/MIS is to help with empirical work which would determine the measures most efficient for assigning individuals appropriate alternatives and determine what alternatives should be made available.

Toward CAI

The development and adoption of the type of individualized model proposed here seems to be a necessary prerequisite for bringing CAI out of the "back room" and into the classroom. It seems unlikely that CAI will ever provide all of the instruction for all of the students all of the time. Yet it is virtually impossible to incorporate CAI into traditional schools where the classroom is the basis for instructional decisions and scheduling. On the other hand, it is easy to incorporate CAI lessons into IPI/MIS as those lessons become available for solving specific instructional problems. The computer is there, the terminal capability is there, and the flexibility of an individualized school organization is there. Most important, a model for individualization is there, It seems reasonable to believe that the same instructional model that guided the development of IPI and is guiding IPI's "automation" can guide the development and implementation of CAI in an individualized school. Some mix of these aspects seems to be the end toward which we are currently striving.

REFERENCES AND NOTES

1. R. Glaser, in *Evaluation of Instruction*, M. C. Wittrock and D. Wiley, Eds. (Holt, Rinehart & Winston, New York, in press).
2. ———, in *Proceedings of the 1967 Invitational Conference on Testing Problems* (Educational Testing Service, Princeton, N.J., 1968), pp. 3–36; C. M. Lindvall and J. O. Bolvin, in *Programmed Instruction*, P. Lange, Ed. (National Society for the Study of Education, Chicago, 1967) pt. 2, pp. 217–254. Oakleaf is an elementary school in the Baldwin-Whitehall School District near Pittsburgh.
3. Although we are not completely happy with all of the connotations of the term *computer-managed instruction*, it does seem to be the term most frequently used by people currently working in this area of concern. It should be emphasized that the computer is used as a tool in the management of the information needed by teachers in planning individualized education.
4. See, for example, W. W. Cooley, "Computer systems for guidance," paper presented before the American Educational Research Association Annual Meeting, February 1968, Chicago, for a more detailed consideration of guidance in the individualized school.
5. J. O. Bolvin, "Evaluating teacher functions," Learning Research and Development Center, University of Pittsburgh, working paper No. 17 (1967).
6. J. C. Lingoes, *Educ. Psychol. Meas.* 23, 501 (1963).
7. The specification of models for individualizing education, the development of IPI, the implementation of CMI, and the eventual incorporation of CAI in individualized schools are major activities at the Learning Research and Development Center, University of Pittsburgh. We thank our many colleagues and students who have contributed to these efforts. The preparation of this article and the research and development described were performed pursuant to a contract with the U.S. Office of Education Department of Health, Education, and Welfare. Additional support has been provided by the General Learning Corporation, New York.

AN ALTERNATIVE: QUESTIVE EDUCATION[*]

Thomas Corcoran, Research Associate; Laurence B. Dewitt, Research Fellow; and Ralph Hambrick, Research Fellow, Educational Policy Research Center, Syracuse University Research Corp., Syracuse, N.Y.

Predictions or conjectures about the future are never certain, based as they are on some combination of imagination and extrapolation from the past. However, three statements about the future of American society seem, if not certain, very difficult to question. First, there will be an increasing number of situations which we can justifiably call crises. Second, actions will be increasingly interdependent; that is, the consequences of an action will be increasingly difficult to restrict to the actors involved. Third, more choices on both an individual and an aggregate level will be possible *and* necessary. These three phenomena will have a powerful effect on the social milieu of the future.

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Crises in the future will derive from a number of sources: They will result from unmet expectations, from intensely felt—but mutually exclusive—demands, and from institutions which exacerbate rather than meliorate conflicts; crises in the future will be caused by our inability to restrict the impact of actions, but also from our assumption that actions will have an adverse impact when they will not; crises will come from our inability and unwillingness to invent new institutions to handle new social and technological realities; they will come from our unwillingness to look beyond the present, and from our fear of what the future might bring; they will result from both the desire to control and the inability to control; we will have crises in education, in social welfare, in the cities, and crises resulting from pollution; we will have moral crises resulting from a gap between our stated convictions and our will to effect social and economic change. Technical expertise will assist in resolving these conflicts, but expertise, by the very nature of the problems, will not prevent them or solve them. In fact, some increases in technical expertise will add yet more problems.

The future will be characterized by greater interdependence between actors. A classic example of the interrelatedness of our society is the virtual nonexistence of self-sufficient economic units. Pollution is an example of interdependence which is reaching crisis proportions. An awareness and understanding of this interdependence will be of increasing importance for our ability to cope with reality. Awareness of interdependence seems to be increasing through the mass media and through holistic trends in social science and its popularization. Yet our perception of society's interrelatedness may itself be a problem. We may develop an expectation of interdependence which will cause us to curtail actions unnecessarily on the false assumption of interdependence. Recognizing that there is greater likelihood that our choices will have consequences for others, we must nevertheless be alert lest we restrict freedom for no cause.

The future also promises the opportunity *and* necessity to make more choices. The capacity to control the weather may make it possible to choose between sunshine and snow, but it will also make the choice necessary, for when a capacity exists, not to use it is itself a choice. The fact of more choices and broader consequences, apart from the substance of those choices and consequences, has major implications for society. It promises to be a much more vital society, but also a less comfortable one. The fact of choice may provide excitement, but the comfort of certainty is gone. The option we have available is not whether to return to a state of certainty, but how we structure our ability to tolerate change, uncertainty, and ambiguity and still make choices, mindful of their consequences.

These converging crises, interdependencies, and choices imply a significant increase in the complexity and "confusingness" of modern life. Unfortunately, there seems to be a strong tendency to retreat into enclaves of simple answers when confronted by such an onslaught of new, unfamiliar, and only uneasily sorted "variables." Man, of course, has always had to simplify in order to make sense out of his environment. But the distinction here is whether or not this simplified picture or model is accepted as *reality itself*, or is considered simply one (of many) *useful* ways to organize a fundamentally stupefying morass of "data." The purpose of the first approach is to make perceived reality (there can be none other) hold still. The purpose of the latter approach is to aid in asking a new set of better questions about one's environment in order to create new perceptions of reality.

It seems clear that it is the latter sort of "questive" or "creative" process which must be employed if the matrix of threats to the world and our society is to be tamed. It seems clear, also, that society's failure to date to respond in any vigorous manner to these crises is due in large part to individuals and organizations making reality "hold still." Treating one's perception of reality as a security blanket in a time of crisis and change is a sure road to disaster.

Instruction versus Questive Education

Education can play a very fundamental role with regard to these threats. Simply put, the educational system must bear much of the burden of preparing individuals not only to cope with and exist in such a world, but also to change it and make it more liveable. Clearly, this is no small task. But it is an essential one.

Schooling is based upon the notion of instruction. Learning is perceived to be the end result of teaching rather than the outcome of experience. Teaching is seen as the transfer of knowledge rather than the creation of an environment which facilitates learning through exploration and experimentation. Instruction is dominated by the authority of the teacher as the bearer and evaluator of knowledge. The student who provides the answer the teacher desires, i.e., the "right" answer, is rewarded; the student who questions the meaning of the facts or the objectivity of the teacher's knowledge is less likely to fare well in the system. The learner is given little opportunity to experience autonomy or responsibility. This is the dominant mode of education in our schools and it contributes to some of our most profound educational problems. It fosters deceit and alienation in some and passivity, conformity, and acceptance of authority in most.

Confronted with mounting evidence of the ineffectiveness of the schools for large segments of the population, educators have sought more efficient techniques of instruction. The trend is toward didactic models replete with scientific jargon which are implemented via complex technology. Yet the doctrine of instruction remains the operating logic for most of these innovations and little attention is paid to Dewey's observation that what individuals learn from an environment is the role which is assigned to them.

The same concern about efficiency has led to the widespread practice of grouping, whereby children are sorted according to certain traits, e.g., age, IQ, reading rate, etc., which are believed to be related to their capacity to learn. Other aspects of the individual child are largely ignored and, within their groups, children are treated as homogeneous units. The various schemes for individualizing instruction represent only a more sophisticated solution to the same problem; children are permitted to proceed at their own rates but along the same learning path. The point is that most of these practices are inimical to individuality. One exception to this generalization is the current experimentation with independent study programs which marginally increase the autonomy of the individual learner.

In brief, there are several major shortcomings with the current system of primary and secondary education. The notion of "factual material" or a "body of facts" to be learned is stifling to the student, not only because it denies him the learning experience of questioning the limitations of the term "fact," but also because it places him in a very passive, recipient role. Second, it assumes that facts, information, whatever, can be directly communicated from one person to another (from the teacher to the student). This is highly questionable. Given the nature of the grading system, it may be that the main thing that students learn is how to "work the system," or "how to get ahead in a highly arbitrary environment." This, in a cynical sense, may be a very "useful" experience for a number of students. But it hardly forwards the avowed goals of education concerning the development of the ability to conceptualize, to think, to be creative, and to pursue one's interests. Finally, implicit in this form of education is the assumption that the information to be "transplanted" is the best equipment, the best preparation that can be provided for facing the later challenges in life.

Various terms have been used to describe a fundamental alternative to the current system: inductive method, inquiry method, questive method, and so forth.* The basis of all of them is that the teacher refrains from "dispensing" knowledge and information. His primary role, rather, is to assist students to pursue knowledge, to pursue and create their personal understandings of the environment around them. And the major technique the teacher uses in performing this role is the asking of questions. The purpose of his asking questions is not so much to lead a class discussion in any prearranged direction, but to point out the underlying uncertainty contained in the declarative statements of fact.

Secondly, by eliminating the teacher as an "instructor" and by allowing the students to lead and actively participate in the discussion, students learn ("by doing") how to go about analyzing problems. In short, they learn the skills of asking questions, formulating problems or hypotheses, and seeking information that will aid them in dealing with them.

This, in brief, is the questive approach to education. It should be noted that this is *not* the same approach as others which have similar names, such as the "discovery method." The distinction here is one of whether or not the teacher is deliberately directing the students toward a prearranged goal, whether or not he is, in effect, manipulating the discussion to lead them to certain conclusions. In the questive method discussed here, the teacher plays no such role. Instead, he seeks to involve students in discussions and activities, and also asks probing questions in order to get students to clarify their thoughts.

It is common when talking about education (as well as other subjects) to make a distinction between "process" and "content." Tradi-

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*One of the best recent books along these lines is *Teaching as a Subversive Activity* by Neil Postman and Charles Weingartner (New York: Delacorte Press, 1969).

tional educational thinking is often couched in these terms, such as when various alternative techniques (processes) are discussed for teaching a given subject matter. The approach we are discussing makes no such distinction. In fact, rejection of the distinction is at the very heart of what we are talking about. The point, simply put, is that the process by which individuals learn is, itself, the main thing that they learn.

Below are presented two brief classroom scenes. They depict what might well take place almost any time in the 1970's. That, however, is not the point. Rather, the purpose is to indicate in some sense the contrast between the type of education (instruction) most commonly used now (the "old school"), and the questive method (the "new school").

Old school

Teacher. Well, I hope you have all read Chapter 12 entitled "Environmental Pollution." I guess you realize that this is a relatively new chapter, and reflects a new problem facing our country. It is not something which happened all at once. Rather, it was an accumulative process dating back to the beginning of the industrial revolution in this country and before. But industrialization and population increase, and the virtual explosion in the use of polluting devices, from synthetic materials such as paper, detergents, throwaway glass bottles, and the internal combustion engine have increased the pollution problem in such dramatic terms that we have recently been confronted with a genuine crisis.

This is such an important matter that I have decided to ask you to do a paper on some aspect of the problem. Before we discuss the assignment, are there any questions on the chapter in the book?

Fred. How long do the papers have to be?

Teacher. We will talk about that later. Does anyone have a question?

Fred. When will the papers be due?

Teacher. Fred, you are being a nuisance. Keep quiet unless you have something important to say. Since no one has any questions, let's take ten minutes to look at Chapter 12 and see if that refreshes your memory.

[Ten minutes of shuffling, whispering, and other assorted activity follow while the teacher stands in the doorway talking to the English teacher from across the hall.]

Teacher. Well, now are there any questions?

Gary. What is going to be done about the problem?

Teacher. Well, the President's Emergency Advisory Panel has recommended three basic courses of action. These strike many as a bit extreme, but, on the other hand, the problem itself is so extreme that such stiff "medicine" might be necessary. Beginning in the late 1960's and early 1970's the Federal Government in Washington, along with many of the State governments, took various steps to reduce the rate at which our environment was being polluted. This included various requirements to reduce the pollution from the internal combustion engine automobiles and various controls of a rather loose nature concerning industrial pollution of both air and water. Along these lines, can anyone remember from the readings what the three main alternatives are to the internal combustion automobile? Sam?

Sam. The electric car, the steam car, and rapid transit systems.

Teacher. Excellent, Sam. Some automobile companies are working on electric cars and they may be available soon. The steam car is also a possibility. It would be cheaper to operate, but. . . . Yes, Anna?

Anna. How does a steam car work?

Teacher. Well, it runs on steam and the fuel is consumed more efficiently.

Anna. Why?

Teacher. That is a rather technical question, and I don't want to take the time to go into it here. However, maybe in your science class Mr. Lunn would like to go into a fuller description. Why don't you ask him.

Sam. I know how they work.

Teacher. That's good, Sam, but we haven't the time to go into it now. The period ends in two minutes and we must get the assignment straight. The papers will be due next Monday and must be at least 500 words in length. The theme is "How Pollution Affects My Life." Tomorrow you may use class time to go to the library to work on it.

Also, please note the reading assignment on the board. Chapter 13 on Race Relations should be read by Tuesday. See you tomorrow.

New school

Teacher. Well, yesterday we talked about the rise and fall of pterodactyls, and discussed some of Sam's discoveries so far on that. Has anyone else found some things they want to talk about, or should we wheel?

Class. Generally favorable response for wheeling, though some opted for a reading period.

Teacher. Wheeling it is.

Sam. On the news last night they said that pollution has gotten so bad that the government is probably going to ban cars in another few years anyway. And they said they may even have to shut down a bunch of factories, too.

George. They couldn't do that.

Sam. Why not?

George. They couldn't ban cars—how would people get around? How would people get to work and how would we get to school?

Sandra. The more I hear, the better I like it. [Cheers. Laughter.]

[Editor: Kids are kids. We aren't proposing to change them.]

Mary. I think George is right. If they made companies stop producing, where would people who worked there get new jobs? And how would they decide what to stop producing? What if the companies produced weapons for defense or some other vital product?

Fred. Sam's right, though. They did say that they were going to have to ban cars and some factories in the next few years, and that if they didn't, the pollution problem would become so bad in ten years that we'd all have to wear gas masks outdoors in ten years—and indoors, too, if the building didn't have air filtration.

Teacher. Sam, did you say that the news program had said that these things would be done, or that they might have to be done.

Sam. The program said that they would have to be done if other means of reducing pollution failed.

Betty. What do you mean when you say "reduce pollution"?

Sam. Decrease it, of course. Make it go away . . . what sort of stupid question is that? You're just playing Mr. Rombo's [the teacher's] game of "What do you mean by that?"

[Laughter. Applause]

Betty. I am not! I just want to know if they're talking about getting rid of some of the pollution or not having much new pollution.

Sam. If that makes any sense, I'll fly.

Teacher. Betty, are you getting at the distinction between pollution which exists due to past activities as opposed to the new pollution which we create every day?

Mary. Oh! I get it. I see what she's after. I guess if we stopped all new pollution we'd just stay as polluted as we are now. If we want to make real headway, we'd have to stop all the new pollution and remove some of the existing pollution as well.

Teacher. Well, are we going some place now?

Jeff. Hold it. No we're not. What Mary says about pollution isn't always true of all pollution. For example, look at noise pollution. If we could stop all *new* noise pollution, there would no longer be noise pollution. There's no such thing as old noises. They're sort of instantaneous.

Teacher. Maybe you didn't have such a good point after all, Mary. What do you think?

Mary. Well . . . maybe its just true of all pollution *except* noise pollution.

Fred. No. It depends on how you look at it. For instance, if you look at noise which comes from an old factory which has been around for a while as "old" noise, and noise which comes from a newly built factory as "new" noise, then the statement that Mary made is still true.

Teacher. Well, Jeff? Is Mary still wrong?

Jeff. Well, I guess it depends on how you look at noise. If you look at noise as a temporary thing that plays itself out and then disappears, then she's wrong—at least about this type of pollution. But, if you look not at the structure of the noises themselves, but at the *sources* of noises, then I guess her statement would still hold up.

Teacher. But even with your second definition, isn't there still a difference between noise pollution, and, say, water pollution?

Jeff. No. I don't think so.

Teacher. Well, I'm not so sure. But let's come back to that later . . . if I can figure out what it is. I must confess I didn't see the news last night. Can anyone summarize just what it was that the Emergency Advisory Council said?

Suzie. Yes. Besides the possible banning of gas cars and possible elimination of some especially pollutant factories, they said they wanted to set up some sort of commission or fund or something that would go around taxing factories for all the polluting they do.

Henry. If they're going to pollute anyway, what's the point of that? Why don't they go around and just tell them to stop polluting or else?

Teacher. Or else what?

Henry. Why do you always say things like that?

[Laughter.]

Teacher. You see, sometimes I'm not sure just what you're saying or what you mean.

Henry. I guess I mean or else they'll close the place down, or hit 'em with a fat fine—something along those lines.

Teacher. I wonder if that isn't precisely what the Advisory Council has in mind with this special tax on factories.

George. Yes. It must have something to do with that because I think they said that the amount of tax that the factories would have to pay would be based on how much they polluted.

Jeff. How do they decide how many dollars' worth of pollution the factory has done?

Mary. And do they make them pay back all of it, or just some of it?

Some anticipated criticisms

As with any effort to alter the status quo, questive education will meet with arguments that it is undesirable, impractical, or impossible. One reaction might be that questive education as a model approach in the system is impractical. Critics will cite the sizeable literature on barriers to change in the public schools as "proof" that so fundamental a reform is out of the realm of possibility. We would agree that it will not become a full reality by 1975 or 1980. But we do insist that it is a profitable direction. The fact that it is difficult is not a sufficient reason for abandoning it as a goal and as a yardstick against which to evaluate progress in the educating system.

A second negative response might be that it is not suitable for all aspects of schooling; that it makes sense for a civics course but children must learn to read and acquire mathematical skills and for these it is inappropriate. The distinction between instruction and education implied in this criticism may have some validity, although the degree of validity is far from demonstrated. The utility of the questive approach goes well beyond a civics course, and the principles involved, with some variations, may even assist in learning how to read and do mathematics. Although it surely has limitations, its full range of utility is yet to be determined.

A third criticism might be that questive education will destroy the authority relationship between teacher and student and thereby cause a breakdown in discipline. This conclusion does not follow from the nature of the approach. First, questive education will require a degree of intellectual self-discipline not approached by the currently dominant doctrine of instruction. Second, removing authority as the basis for the acceptance or rejection of facts, interpretations, and judgments does not imply that authority in maintaining classroom order will suffer. Treating the student as a person with the capacity to reason and judge may well decrease the artificial relationship between student and teacher which is a cause of behavior aimed at "conning" the system, a significant cause of unproductive disorder.

Other criticisms of a questive approach might be raised and they deserve an honest evaluation. Some are likely to suggest useful modifications or assist in delineating the scope of the approach. What should be avoided is rejection of the approach because of an unwillingness to question the status quo or because its critics have impressive credentials.

Some policy and institutional implications

If we do accept the notion that a questive, choice-making emphasis in the education system is desirable, how might we begin to effect it? What kinds of policy and institutional implications does the proposal have? The very nature of the questive educating system suggests that it cannot be mandated in the manner of State-required courses or enforced with the instrument of standardized examinations or implemented through hierarchical accountability. Although there is no clear understanding of the relationship between the organization of the educating system and the nature of its impact on the student, it does appear quite likely that a system based on authority relationships with choice removed from the teacher (and even the principal and the superintendent) restrains the ability of the teacher to create a questive, choice-emphasizing environment. Authority cannot be the basis for creating a questive educating system. If the child is to be questive, the teacher must be questive; if the teacher is to be questive, the principal must be questive, and so on. This means that insofar as questive education is stimulated by policy, the policymaker must suppress his desire for certainty. He will have to tolerate system "sloppiness" and the chance of failure, with his only consolation being the knowledge that insistence on certainty through the instrument of authority would itself decrease the probability of success.

It may be that the negative formulation of the contradiction between authority and questive education has a positive side. The effective thrust of policy for questive education may be to provide choice throughout the system: for parents, students, teachers, schools, etc. Rather than enforced requirements, the provision of alternatives—for subject matter, timing, environment, etc.—may be the most effective stimulus for creating an effective educating system. This effort will require organizational invention as well as a willingness to remove "efficiency" as the highest criterion of organizational effectiveness. It will require altered modes for justifying expenditures of the Federal dollar.

Questive education, as we have advocated it here, is envisioned as something which in the future might become part of the questive society, one in which the individual is the explicit unit of moral concern and is provided an environment and a role within which he is perceived by himself and others as an autonomous, thinking, judging person. Even though this concern with the individual has a long tradition in Western political thought, our operating principles and our mode of justification of governmental action and expenditures are cast in terms of the aggregate, some larger whole. The title, "National Defense Education Act," for example, does not attempt to hide the fact that the grantee is perceived as an instrument toward some larger goal. Excluding nondegree-seeking and/or part-time persons from eligibility for governmental education grants indicates not only the instrumental goals of the grant but also the accepted notion of the appropriate indicator of that instrumentality, namely a degree. If government is to assist in the attempt to achieve a questive society, we may need to develop individualistic rather than holistic modes for justifying governmental expenditures and invent institutions which can affect the spirit of that justification.

The thrust of this institutional invention might be toward the creation of space in which individuals can act without having consequences for others; these institutions might decrease the interdependence of actions. And if we add to the fact of a decrease in interdependence an acceptance of that fact, we may be able to grant a capacity for choice, a level of freedom, which the systemic nature of society and its institutions would otherwise deny. We might even reduce the occurrence of the bureaucratic cop-out, "Well, I'd like to let you, but what if everybody did it."

It may well be that questive education is necessary to develop not the social and institutional inventions suggested above, but the inventors themselves. The purpose for attempting to place questive education on the agenda of policymakers in the seventies, however, is not to suggest that necessary changes will occur in that period or that it will become the modal approach to education before 1980, however much we may hope for that occurrence. The point is that questive education is a viable alternative, that it does have definite policy implications, and that the seventies is the time to begin, if not to complete, the task.

CLOSING THE NATION DOWN FOR EDUCATIONAL PROBLEM SOLVING

Luvern L. Cunningham, Dean, College of Education, The Ohio State University, Columbus, Ohio, and Fellow, Center for Advanced Study in the Behavioral Sciences, Stanford, Calif.

The tragedy of the decade of the seventies can be written now, simply and without fanfare or embellishment. As a nation we simply will not discover the solutions to our vexing social and educational problems despite the fact that the resources, the energies, the capabilities are everywhere. We will spend more, we will try harder, but our failures will be even more grandiose than those of the past. But it need not be so. We are saturated with capacity. Our energy and talent reservoir literally knows no bounds, yet we have failed to discover how we can address that energy and talent to problem solving. Our vision is limited and unnecessarily constrained.

My paper is neither extended nor eloquent. I make no effort to review our frailties nor to advance elegant theories about what might be if we were to allocate a much larger share of our national budget to education. Our educational problems are grave, indeed, and the need for promising ideas, theories, and new approaches is apparent. The notions advanced in the pages which follow are not expensive nor are they futuristic. They are starkly modest and capable of implementation now. The payoff similarly would be immediate, not a decade away. And the formulation, although presented here for educational problem solving, is equally applicable to our other vexing national problems.

Let me begin by saying that despite our mass educational enterprise (remarkably successful, actually) and all of our mechanisms for informing ourselves informally, our citizens, all of us, are exceedingly ignorant and poorly informed. We know very little about the matters that are destroying us.

As a nation we have a kind of cocktail party mentality—few facts, lots of affect and emotion, and little motivation to understand better our problems. Our national ignorance is rather evenly distributed throughout the society. Be we barber or bank president, PTA regular or AMA member, hippy or Senator, our knowledge levels, in contrast to what is knowable, are uniformly low.

We have a fantastic reservoir of educational technology that could be effectively converted to a massive, national, society-wide informational and educational effort directed at solving national problems. Its potential has been demonstrated with the moon landings. The world is better informed on space problems and issues than any other single matter. On two occasions, (July and November 1969) around-the-clock programming on television and radio was focused on moon landings, features of space travel, and hosts of technical, moral, even legal problems of space exploration. The effort affected the world—people of all ages everywhere know something about space. The knowledge level of persons the world over is undoubtedly higher about space than on any other single phenomenon. Such understandings were achieved in a remarkably short time through the formidable powers of the mass media using modern technology. Furthermore, that success stands apart from what in the future could be a substantially enlarged exploitation of such potential for educational purposes. Ideas about employing this capacity are developed later in the paper.

Communication about space accomplishments was achieved through a remarkable spirit of world cooperation. Domestically, too, we witnessed a marvelous blending of the resources of both the public and private sectors. Television and radio programs were sponsored by private advertising. Space program achievements, the product of public investments in space developments, were shared openly on the bases of policies arrived at through interactions of the public and private sectors. The focusing of national, indeed world attention, on the moon landings was obviously considered to be in the nation's public interest. The technical accomplishment of landing men on the moon was to some extent matched by the remarkable coordination of public and private energies and capabilities which made the mass media focus possible.

We, in education, are concerned with ignorance and its liquidation, with knowledge and its utility. We are likewise familiar with educational technology and its application to educational problems. We have had at our finger tips a mass education capability which the educational community has no way of unleashing. Its power and majesty are there and hopefully available. But we stand disheveled in its presence.

What if we, as a nation, were to convert or apply this same capacity, in whatever amounts necessary, to elevate our informational and knowledge base as a society in regard to educational problems and issues? What if we were to preempt the media for periods of time equal to those devoted to the moon landings and focus on the national reading problem, for example? I propose that we do.

I am not advancing a namby-pamby approach to solving the nation's reading problem—or any other for that matter. This is an earnest, deadly serious proposal. I recommend that we use (unshackle if you prefer) our total capacity in a massive assault. And that we give our complete, undivided attention to the problem by shutting the nation down.

Let us visualize a national close-down and a maximum mass education effort. It is not a holiday but no one goes to school, no one goes to work, no one plays golf. We simply inform ourselves about this national deficiency and search for ways to eliminate it. Think of continuous radio and television programing on reading; newspapers carrying no news (only legal notices and obituaries)—just stories on reading. Picture the supplementary roles that schools could play. Visualize churches and thousands of other voluntary and civic associations turning their attention to the problem. All other news, problems, world events would be set aside, shelved for a brief period; total attention, zeroed in on reading.

Space precludes documentation of the seriousness of our national reading deficiency. Let me simply quote briefly from an interview made about three years ago with a young man in Southern Illinois. His emotions tell the story more eloquently than pounds of statistics. The interviewee is a young man, twenty-two years old, who cannot read. He is white, married and has a family. In the interview he is reflecting back upon his experiences in the public schools:

> **It was stupid the way they tried to teach me. In sixth grade they put me in the cloak hall. I was up about two stories high and I used to make those paper airplanes and throw them out the window. I flunked first grade and second, and I was always older than the rest of the kids, too, and that puts me down. In arithmetic I am slow and in English I am slow, and in reading—I can't. I can read some, but not enough to get by with. I know what danger is, and that is the only thing that I think is important, like as if somethin' says poison or somethin'—I know what that is.**
>
> **If somebody took a bull whip on me and tried to make me read, I would just give up and let them kill me or somethin' like that. Like when I was in school there was a lot more smart people than I was. I just felt like I'd just give it up to everybody else cause there is always somebody better'n me. I just gave up. I don't know, they say you are nuthin' or you're pretty stupid, you don't think about it when they say it cause they don't know how true it is. But you know.**
>
> **You know what I mean. Just for instance like if I didn't know what nationally was, if I didn't know what that was I'd say well, what is it? And they'd say, boy, are you stupid. And boy, that gets you right there, but I don't act like it. I put up some kind of front and I said if I wasn't so stupid then I'd be rich, and you know that is the kind of example I'd give back. There's always an answer for everything.**
>
> **A person like you right now, I don't mind explainin' this to you. It's immaterial, but it's downgrading me, but I tell you it don't make no difference to me cause I'm old enough to take shame as it comes.**
>
> **If I could read and if I could spell, readin' and spellin' and arithmetic that's all, geography and English don't mean a thing. I mean, I can find out the rest of that on my own and it's true, too. I'll look at a word and I'll say, man, I sure wish I could read that book. I can't do it, I try, but I can't do it.**

I cannot reproduce the feeling—the pathos—contained in this young man's voice. The total interview reveals that he possesses remarkable selfinsight, that he is reasonably bright, that he is not bitter—just that he is beaten, feels trapped, and sees no way out for himself or his family. He is a product of our schools and there are thousands more like him. Furthermore, his plight was not produced overnight—it was two decades in the making.

Can you imagine it? The nation closed down. Total saturation programming on radio and television, all stations, all channels, for four days. Newspapers and other printed materials devoting complete attention to the national reading problem. Just imagine. Comprehensive, in-depth, learned attention to the problems and issues in reading. Programming so rich that it will attract the interests of everyone—toddlers and teenagers, gurus and grandpas, potters and Ph.D's. And we can make it cop-out proof, or at least reasonably so.

I would see the national close-down and massive educational effort serving the following purposes: (1) documenting the problem, reporting on the nature of deficiencies, calling upon the genius of the media to make that representation—it would be essentially a sensitizing purpose; (2) a review of how educators are approaching the problem currently; detailed, in-depth presentations balanced between national and local programming; and (3) some notions about how the enlarged involvement of thousands of people in follow-up actions could help in the solution. As is implied above, programming, through the media and other integrated efforts locally, could be addressed to those three purposes.

The first of the four days could be devoted essentially to sensitizing the nation to the problem involving its description in both national as well as local dimensions. The second day could be informational, too, elaborating contemporary efforts to solve reading problems, focusing intensively on what the schools are now doing. The third and fourth days could be directed to what we do about our national reading difficulties. We could have, in effect, a national brain-storming of the ways to work our way through to solutions. Suggestions for solving the problem could be national, e.g., what can Congress do? Or locally, how could we organize a massive, city-wide tutorial assault?

The beauty of it is that we have everything—now. We have exceedingly creative and gifted people in the media. We have the technical materials—the delivery systems and the receiving systems. We have the modes of presentation. We have reservoirs of ideas about reading. We have people who could assist the media in mapping the terrain. We have public service-oriented advertisers. We have the prospect of a powerful blending of public and private sector capability. We have an administration that has chosen this problem (Commissioner Allen, H.E.W.) as the nation's Number One educational priority. And we have a citizenry aching to find solutions.

With this preamble I would like to advance three recommendations for the General Subcommittee on Education:

1. That the Subcommittee, through its staff, begin immediately to work with relevant administrative agencies (F.C.C., H.E.W.) [1] in the planning of a four-day national close-down for the purpose of solving the reading problems of the nation. Furthermore, if legislation is required, that it be drafted at once.

The public and private planning processes that were applied to informational and educational efforts for the moon landing may be a helpful model. As planning guidelines, however, I would suggest the following: (1) programming of all media should be directed to society-wide audiences; (2) effort should be comprehensive in scope, including detailed analyses of what our several national reading problems are; (3) promising approaches to their solution should be included; (4) reading problems throughout the population should be described rather than limiting the focus to school-age readers; (5) detailed spelling out of things that individuals can do to improve their own reading skills should be presented; (6) ideas about how readers can teach nonreaders should be shown; and (7) planning should neither be dominated by professional educators nor should their expertness be ignored.

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[1] The Committee understands the Federal mystique and could determine the relevant agencies.

Advance planning and design teams should give extended attention to national close-down, follow-up programs. Suggestions should be offered to cities, small towns, metropolitan areas—even neighborhoods—on how to make further advances on solving the reading problem after the close-down ends. Most communities have the manpower to solve their reading problems right at home. Readers outnumber nonreaders. There are former teachers, active teachers, would-be teachers, school children who can read, college students, professional people, housewives, many of whom have time and the inclination to invest a large part of their energy in problems like this one. So, let us put them to work. Across the nation there are literally millions of persons who could inform themselves about how to teach nonreaders to read or in other ways help with the problem. They should launch into the task. Obviously, there are administrative jobs to be done, e.g., bringing teacher and nonreader together, allaying anxieties, and the like. But these are manageable too.

Shut-down planners should give attention to how the close-down and the massive educational effort can be related to public and private schools. For maximum benefit and exploitation of follow-up potential the schools would need to have a central role in the entire plan. Considerable thought should be invested in how a massive reading tutorial program could be mounted and carried out, for example. The schools could offer locations for tutors to meet students; schools could help in the training of thousands of tutors; schools could mobilize within the system itself a large number of tutors from teachers, students, librarians, and secretaries. There are hundreds of persons (professionals and nonprofessionals) who might wish to take part.

2. *That the Subcommittee explore the potential of earmarking two weekdays each month for national problem-solving purposes, some of which would be reserved for educational matters.*

On these days, the nation would, as in the case of the reading example, close down with the exception of hospitals and other necessary services. The year's calendar would be prepared in advance and problems selected within some priority system. Regular national close-downs would continue until such time as we were satisfactorily on top of the problems that are about to destroy us. We may indeed find it necessary to continue the practice from this point forward without cessation. Thus, the Subcommittee should examine ways and means of extending this capability to a host of problems immediately such as education, generation cleavages, pollution, housing, law and order, public health and drugs.

3. *That the Subcommittee staff devote time to investigating the feasibility of applying the same idea on lesser scales—regional, metropolitan, city, even neighborhoods, incorporating both the mass media educational effort with the close-down notion.*

The national focus may work effectively on some problems that are, indeed, national in scope. But a more limited application may be fruitful on such educational problems as metropolitan educational government reform or related questions such as community control and decentralization.

The potential of our national problem-solving reserve is not going to be tapped unless some definitive steps are taken. Planning responsibility should be fixed either with an existing Federal agency or a new one devoted to national problem solving. Attention must be given to spelling out problem-solving models for neighborhoods, cities, metro areas, regions, States, and the nation. Planning resources will be needed. Appropriations for that purpose should be anticipated. Experiments are in order; feedback and appraisal should be designed.

An inventive approach to the coordination and follow-through on close-down days at various levels needs to be found, obviously. There are, within metropolitan areas for example, few metro-wide structures or agencies that currently can assume planning and follow-through responsibilities. Conceivably, school districts could find a way to assume these tasks; but there would be advantages in avoiding tight linkages with existing institutions. In the absence of coordinating structures, new designs for this purpose might well be tested. For example, in Columbus, Ohio, the Urban Education Coalition, a new metropolitan-wide organization devoted to strengthening education, could assume this task immediately. But few such associations exist. The Subcommittee staff could assist with the development of such organizations at several levels.

The only way to solve our problems is to solve them—we, us, ourselves. No one else will do it. The observation is so homely that one is embarrassed to advance it. It issues from a modest philosophical premise. There is no way for anyone to avoid the problems of our time: black or white; city dweller or suburbanite; scholar or school boy. Escapism is at best temporary and nonproductive. Events of the day beat our sensitivities from every quarter and batter down our resistance.

As individuals our problems are both personal and social, if we care for our society. Part of our personal responsibility is to avoid "copping out," either in innocence or after deliberation. We are in an age of finger pointing: youths at adults, adults at youths; blacks at whites, whites at blacks; doves at hawks, hawks at doves; minorities at majorities; majorities at minorities. We are at an exaggerated level of fault finding, guilt transferring, thrusting and parrying. We invest fantastic amounts of energy and resources in lashing out and defending. Our abhorrence with injustice, brutality, inhumaneness, has unveiled substantial amounts of precisely that—injustice, brutality and inhumanity. And it has produced an environment of nakedness. All secrets are known; all frailties stand exposed. We have discovered that there are no innocents—that all are guilty.

We have passed the point where further criticism is helpful. Nothing is to be served by fresh waves of acrimony. The generation of new hostilities will take us nowhere. Our problems are so severe, the consequences so grave, that they demand the attention of two hundred million people. Let's take bold new steps to their solutions.

URBAN EDUCATIONAL TRENDS IN THE SEVENTIES

Robert A. Dentler, Director, Center for Urban Education, New York, N.Y.

URBAN EDUCATIONAL TRENDS IN THE SEVENTIES

Introduction

Less than one-half of 1 percent of the more than 20,000 public school systems in the United States are currently responsible for educating more than one in five of the nation's elementary and secondary students. About 2 percent of these systems, all of them urban, enroll more than one in three of the nation's students.

The city and large suburban populations served by the 400 largest school districts are declining only slightly in size, while they continue to change rapidly in class and ethnic composition. As a result, the elementary and secondary public school populations of American urban communities will decline very slightly in the numbers of pupils enrolled during the 1970's, while the adult populations will continue to become poorer economically and ethnically more isolated.

Thus, the ability of urban school systems to finance themselves—an ability already in drastic decline during the 1960's—will move toward total dependency upon State and Federal financing during the coming decade. If we assume the viability of these school systems to be relatively constant, then only the challenge of public financing would deserve intensive consideration. But this report deals with three aspects of operational viability in the belief that these aspects are at present likely to be neglected in the face of the financial challenge.

These aspects are best described as the problems of public legitimacy, the teaching profession, and the individualization of instruction. There are other aspects of urban education that deserve simultaneous examination in view of the social trends and environmental changes that are likely to characterize the decade of the seventies. These three have been selected mainly because of their *seeming intractability*, and not because they are more strategic than other aspects of urban school systems.

We should assert at once, however, that solutions to the problems of urban public education *are* strategic to the future viability of American education as a whole. The measure of quality in American education in the seventies should be the measure of improvement in public and professional responses to the urban challenge. The nation's failure to meet the needs of youths in the more remote rural areas of Appalachia, the Ozarks, Northern Michigan, and on the American Indian reservations, will continue to pose profound difficulties for the nation. But the concentration of the majority of the nation's children and youth in its largest central cities suggests that by magnitude of dilemma alone, the educational challenge of the seventies will be primarily urban.

Public legitimacy

Our urban public school systems will probably continue to *operate* as such during the seventies. But the frequency of one-week to one-month shutdowns of schools and classrooms increased steadily from 1965 to 1970; and it will probably continue to increase as financial shortages, teacher militancy, community militancy, and student unrest, increase from year to year. We expect the existing districts will persist by sheer weight of custodial necessity and the impress of law, but the going will get tougher as the decade deepens.

What has eroded less visibly but more importantly during the past 15 years, however, is the base of public confidence upon which all public institutions ultimately rest in a democratic society. The evidence of this erosion is too complicated to be summarized within a singular hypothesis, but there are alarming indications to support the gross impression that the process of erosion implicit within urban community disorganization is well under way in the case of public schools.

Belief in the importance and efficacy of formal education will continue to run high. And public satisfaction with the quality of public instruction and school services will continue to run higher than one might estimate from the coverage given by the mass media. But erosion has taken place at the base, and there is no public program currently in operation which is designed to prevent continuation of this destruction trend.

The erosion in public confidence is entailed in a reduction in the depth of public belief in the relevance, scope, and life-enhancing utility of public instruction. It is entailed in the spreading conflict around the question of the moral rightness of the power structures through which decisions about educational policy are made. It is expressed in the continuing escalation of urban secondary student unrest and protest, even at the junior high school level. It is implied increasingly in the extent to which urban dwellers question whether formal schooling has improved their job and income security—a questioning that grinds away at the belief that has been pivotal historically to the cultural justification of public school systems in American cities.

The response of professional educators to these growing sources of public discontent has been primarily *technical.* That is, program changes made during the 1960's were for the most part changes in symbolic responses made to deepening social problems. The structural roots of the problem of public disenchantment were seldom attacked, though many earnest technical efforts at change were undertaken. The effect for the seventies will probably be a new public reckoning on the discrepancy between apparent effort and actual, structural solutions to pressing problems.

For example, since 1965, the bulk of Federal Title I, Title III, and Title IV funds has gone into within-school revisions in programs of instruction. The bearing of health, nutrition, family security, parental involvement, and job training considerations upon the outcomes of any effort at urban school improvement is universally acknowledged. Yet, program design and sometimes the lay citizenry, itself, have been governed during the 1960's by a preoccupation with within-school treatments.

Matters of inter-institutional relations, school-community relations, classroom discipline, and student rights and responsibilities have been given comparatively very scant resources, although concern with these matters is intense. Ways of *opening out* the operations of formal education—making them more inclusive, more flexible, and more pertinent to the nonclassroom realities of urban life—are described as important, yet they have been relegated to the bottom of the resource heap by professional educators and lay boards of education.

During the seventies, public confidence in urban public education could be restored by deliberate revision of these priorities. Certain programs set in motion during the sixties offer rich possibilities for achieving a revision. These include the de-isolation of neighborhood schools, infant day care centers within reach of working mothers, storefront extensions of schools and universities, and improved utilization of the potentialities of electronic communication systems. If revision does not occur in the direction of making public instruction more continuous, adaptable, and coterminous with community concerns, then certain precious values that inhere in public education may be sacrificed indefinitely in metropolitan communities. A technical rather than a community development orientation during the seventies could mean that public elementary and secondary schools would become populated yet educationally devoid lighthouses standing on the shores of the past.

For the masses of urban children, the workable alternatives to public schooling—while deserving of intense planning and professional scrutiny—are presently unimaginable. Those who called in the late sixties for the vision of *nonschool* systems of education tended to envision programs that cannot meet the urgent needs of millions of children during the coming decade.

Some contingency planning is therefore imperative on the problem of how to protect the urban public welfare during a grim period of transition from the schoolhouse *status quo* into an unknown future. The prospects for swift and effective reform in school-community relations are by no means hopeless for the short run, but we should also prepare against the possibility of failure of this reform effort.

The Reconstruction of Teaching

During the late sixties, we began to solve the pressing quantitative supply problem in urban school staffing. The teacher shortage began to be met. In the process, however, little change in the characteristic roles of teachers in operating urban schools was accomplished. Income insecurity, powerlessness, and appalling working conditions were remedied by the advent of militant teacher unionism; but little change took place in the way in which teachers were prepared, assigned, apprenticed, guided into the practice of effective instruction and classroom control, or tenured.

The vast social movement known as teacher unionism will be consolidated in city school systems during the seventies. The costs as well as the benefits of the movement will be experienced at the same time the public systems are being reformed or undermined under the challenge to their legitimacy.

During the sixties, teacher unionism had very little effect on the classroom behavior of teachers. As a result of the successes of the movement, teachers were better paid; their professional rights were better guaranteed; their contracted-for working time was adjusted to the necessities of released time and lesson planning; and their ability to affect the policies of school systems was increased. But union chapters and associations did not penetrate the domain of pre- and in-service preparation to any significant extent; nor did they lead to a revision in conventional group instruction. While new procedures were increasingly available, e.g., team teaching and individually prescribed instruction, thousands of teachers in city classrooms persisted in using the lecture-from-the-desk method inherited from the previous century.

During the seventies, we will witness increasing strains between teacher resistance to changes in instructional practice and the assumption of leadership on the part of teachers in the quest for more effective practices. The strains will be resolved in part by the extent to which the union movement moves away from its current emphasis on trade unionism and toward the incorporation of a new professionalism, and in part by the extent to which teachers are incorporated into the decision-making and administrative process. Finally, they will be resolved by the extent to which educational researchers and developers separate fads and fashions from authentic innovations in the engineering of curricular change. Meanwhile, a missing bridge from the past into the future is a bridge of mutual trust between urban teachers and the economically impoverished children and parents they serve.

Individualized instruction

The socially distinguishing feature of *urban* life is subcultural diversity. Even the increasingly segregated populations in our cities are blessed with an order of heterogeneity of life styles that is nearly beyond description.

For six decades, urban public educators have behaved as if they served a single cultural group, just as for the same six decades they have given great lip service to the importance of individualizing instruction. Urban public demand combined during the sixties with new thrusts in the behavioral sciences to generate a variety of alternative modes of instruction. We began the decade with such stupefying labels as cultural deprivation. We ended it with a new awareness of differences in styles and rates of learning. The age-old principle of highly individualized instruction became realizable, even within the context of bureaucratized urban systems serving great masses of students.

The new instructional procedures, materials, and points of view generated during the sixties have yet to be incorporated on a broad scale in urban neighborhood schools. But alternative practices are available and they are diffusing gradually. During the seventies, these will become more widely understood. Assuming an adequate level of public confidence in public instruction and a professional orientation toward educational innovation among teachers, great improvements in the quality of individualized teaching and learning will take place in the coming decade.

These improvements depend for their fulfillment upon new orders of cooperation between the profit-centered education industry, public agencies of education, and the university community. Progress was hampered during the sixties by a thicket of copyright, field-testing, and royalty problems which grew up around several of the enabling titles in the 1965 Elementary and Secondary Education Act. During the seventies, again assuming some degree of stability in the larger urban context, this thicket of limitations will be cut down as partnerships are worked out between free agents in our system. But new Federal legislative amendments may be needed to give the collaboration a boost as well as better regulative formulation in the event that new resources become available in a post-Vietnam situation.

Conclusion

The trends in urban public education in the seventies will become increasingly apocalyptic. We will all have opportunities to choose, almost week by week, between policies that will result in disintegration of public education and policies that will result in tremendous improvements in the quality of pupil learning and human development. The past decade has given us excellent preparation for making these choices. There is little reason to expect any shift in the *kinds* of decisions. But there are many reasons why the outcomes of our decisions will reveal themselves in bolder relief than in the past.

In this paper we have argued that even if the fiscal crisis of urban education were met, we would have at hand many difficult decisions to make and to implement. Among these, the introduction of basic changes in relations between school and community is assumed to be most urgent. Urban public confidence in public education *can be* restored, if structural changes are adopted by policy makers.

Two other sources of change have been explored here. One is toward the effective professionalization of teaching; the other is toward the future, widespread adoption of new systems of individualized instruction. Both depend for their realization upon a setting of increasing fiscal and political stability.

A LOOK AT WHAT IS AHEAD FOR EDUCATION IN THE 1970's

Richard A. Dershimer, Executive Officer, American Educational Research Association, Washington, D.C.

The prognosis for education in the 1970's is gloomy. So much is needed, so much will be demanded, so much more will be known about how to teach children that it is highly doubtful that the massive, sprawling institution known as the school will be able to respond as it should. One way to improve the situation is to try to make the school more flexible. A second way is to continue to create new institutions that provide alternate channels for certain educational services. Let us first examine the question of flexibility.

All large organizations, whether they are governmental or private enterprises, need to find better ways to analyze their problems or needs, evaluate present efforts, set objectives, and determine the best ways to achieve those objectives. To Alfred J. Kahn[1] these are the steps that are involved in more adequate planning. Bunzel defines planning as "a method of determining policy under which developments may take place in a balanced, orderly fashion for the best interests of the people in a given area."[2] At the Federal level, there can be found large staffs of planning specialists, often headed by assistant secretaries, using complex procedures such as program planning and budget systems (PPBS) and program reporting and evaluating techniques (PERT). Planning is well accepted both as a concept and as an integral part of the governmental machinery.

Leaving the Federal government, however, and moving to State or Local agencies, we find far less evidence of planning. This is one of the reasons for education's sluggish preparation for the future.

I propose that Federal funds be made available to train personnel and to establish or to expand planning divisions for Local school districts and State educational agencies. The emphasis during the first phase of the program should be on the selection and training of personnel to staff these new divisions. The second stage should require drawing up specifications for the creation and operation of planning divisions which would be submitted, through the State agencies, to the Federal government. Federal guidelines could be used to ensure that Local and State units meet minimum standards.

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[1] Alfred J. Kahn, *Theory and Practice of Social Planning* (Russell Sage Foundation, New York), 1969.

[2] Joseph Bunzel, "Planning for Aging," *Journal of the American Geriatrics Society*, 9, No. 1 (January, 1961).

The second proposal provides new institutions. Schools as presently organized will never be able adequately to handle all of the problems for all of the students. Complete individualization of instruction will remain an unattainable ideal, at least for the immediate future. How can Federal funds be used to help children with extreme educational problems? Fortunately, there are two models to examine—reading clinics and clinics for emotionally disturbed and/or physically handicapped children.

As more knowledge was amassed throughout the 1930's and 1940's in the teaching of reading, reading clinics were formed for the individual treatment of children and college students with reading disabilities. As they evolved, these clinics have become important centers for research and training many graduate students being used as interns.

How do they help children? After school reading specialists determine that they can do no more for a child with a reading disability, he is referred to the clinic. Here he is given an exhaustive battery of tests and if, in the opinion of the staff, the pupil is teachable, he then enters into a tutorial relationship with a member of the staff. The program lasts from several weeks to several months. When suitable progress has been made, the child is returned to the regular classroom; the staff in the clinic usually works closely with the child's teachers so that she may benefit from their findings and can provide a continuity of teaching styles. The record of success among reading clinics is phenomenal and one of the brightest aspects on the educational scene.

The problem is that there are too few reading clinics. Furthermore, they are open only to students whose parents can afford the $500 to $1000 fee required for intensive care.

Presently there are also clinics open for children with psychological or emotional problems. These are operated in much the same way as reading clinics and serve as a second model for developing new extra-service projects. Aside from these programs, however, there are few ways that an individual can receive intensive care. If a student is having difficulty in arithmetic, the sciences, the social sciences, or other aspects of the educational program, he usually has no place to turn except to a private tutor.

I propose that Federal funds be made available to the States and to Local school districts to create educational centers for intensive individual care in academic subjects. These will be open not only to children with learning disabilities, but also to extremely bright children who do not receive sufficient incentive and instruction within the regular school systems. Outstanding teachers at the clinic would provide the individual attention necessary to realize fully the capabilities of the exceptional or advanced student.

In most cases, these centers should be located on the campuses of institutions that have large teacher preparatory programs. As has been demonstrated in reading clinics, these could then be used in preservice training for undergraduates and by teachers in their graduate work. However, each clinic should have a permanent cadre of persons selected for their intellectual prowess and their ability to perform well in a tutorial relationship with students.

Children will be referred to the center after it has been determined within each school that the available resources are not sufficient to help the child. For example, a third-grade youngster may demonstrate intelligence yet be unable to comprehend the fundamentals of arithmetic. This child could be referred to a remedial center for one or two hours a day until he has overcome his basic difficulty. On the other hand, a sixth-grade child may be so interested in the sciences that he has read every science book in the school's library and clearly is ready for high school work. In this case, the child might be assigned to the clinic toward the end of each school day for the remainder of the sixth grade.

The largest amount of financing to establish the clinics must come from the Federal government. Yet after these centers are in operation, maintenance funds can come from several sources. Federal, State, and Local funds might be pro-rated through direct subsidization. Alternatively, State and Federal monies might be mixed and a "tuition" to the schools could be charged, based on the number of students from each district using the service.

A third plan would be the voucher system already proposed by Congressman Roman C. Pucinski. The plan, as I understand it, is to make available to each parent a given amount of money that he can use to purchase special attention for his children. If the child were referred to a reading clinic, to a center for emotional or psychological therapy, or to the academic clinic described in this paper, the voucher could be used to pay for all or part of the service.

This plan might be labeled "Educare," an adaptation of the term "Medicare." There are several interesting parallels between the two programs. Underlying "Educare" is the assumption that society has a stake in assuring a minimum level of educational "health services" for all its citizens and, since it has been adequately documented that most children do not realize their full capabilities within the present educational structure and are not likely to in the future, it provides one way to overcome some of the weaknesses in the present system.

Education in the 1970's needs much more than what I am proposing in this paper, but both ideas have merit in their own right, as well as illustrating the direction that Federal funding should take. Massive, flat-grant funding is needed but, by itself, will only tend to perpetuate the present dilemmas of the system. One of the strengths of our society is our pluralism, that is, the ability to develop and maintain alternate channels for action. There is far too little of that now in the field of education. By strengthening the planning capabilities at all levels and by providing alternate strategies for parents to use for their children's problems, we can make our educational system much more responsive to the times.

A FEDERAL FOCUS FOR OUR SCHOOLS FOR THE SEVENTIES

Gardner P. Dunnan, District Principal, Briarcliff Public Schools, Briarcliff Manor, N.Y.

As the U.S. House of Representatives General Subcommittee on Education considers the elementary and secondary education needs for the seventies, it is critical that the Subcommittee examine the problems in terms of a national criterion. For the purposes of this paper, this national criterion consists of the following question: What educational needs are of national import and can best be met through a Federal effort rather than a Local or State effort?

The House Subcommittee is one of many groups examining the elementary and secondary education needs for the seventies. Educators, as well as Local and State public officials, have a responsibility to examine their potential contribution to the resolution of the problems facing us in the decade ahead; and, the many groups charged with some portion of this responsibility each must begin by determining their unique role in order to determine where to focus their energies for winning the best results. The Federal focus, obviously, must be on problems of national significance which cannot be attacked as effectively by other public or private agencies. Although many problems could be placed in this rubric, there are five national needs of pressing priority which should guide the members of the House Subcommittee during deliberations on this topic:

1. We must increase our basic support of elementary and secondary education in this country.
2. We must structure programs to decrease racial strife among our citizens.
3. We must respond constructively to the increasingly urban environment of elementary and secondary education.
4. We must educate America's youth to be as sensitive to the humanistic values of life as they are responsive to the economic motivations of our society.
5. We must increase the effectiveness of elementary and secondary education and insist upon the accountability of individuals and institutions.

The Subcommittee undoubtedly has access to the current figures on expenditures for elementary and secondary education in this country, and a brief examination of these figures highlights our national priorities. For example, Senator Yarborough has pointed out that we are spending $21,665 for each citizen for ammunition to fight the Vietnam war, at the same time we are spending 25 cents for each citizen for libraries and teaching materials!

When the rhetoric of the public arena is concluded, the ultimate measure of our national values can be illustrated by a cold comparison of our commitment of resources to take human life, compared to our commitment of resources to educate our own children. Today, we are more committed to killing than to educating.

A basic assumption of this paper, then, is that we must devote more resources to elementary and secondary education and the most desirable source of these funds is our present military commitment. Not only is our military expenditure the largest potential source of funds for education, but also this reordering of our national priorities will have advantages other than improving education. Educators cannot, in good faith, recommend that other national or international ventures to promote health and welfare be limited to provide additional resources for education. Educators must urge that military expenditures be limited in order to provide improved education and other social services, for this reordering of our national priorities is critical if we are to survive as a free democratic society through the seventies.

The Federal government should be the source of our increasing commitment to education since it is the national budget which supports our military establishment. In addition, however, we should also acknowledge the increasing Federal responsibility which is forced upon us by the current population mobility which makes public education in Mississippi a concern for New York and Illinois. Furthermore, the Federal government through its taxes upon income has access to a more elastic source of revenue than the property tax which is presently the primary source of support of education as currently financed by local governments. The limitations of the property tax in a time of inflation are highlighted by the fact that in the State of New York 20 percent of the local school district budgets were defeated in 1969. Such dramatic rejection by the voters is undoubtedly caused by many forces, but one significant factor is the inability of the inelastic property tax to support education in an inflationary economy.

For the above reasons, the Federal commitment to education should be increased immediately to constitute 33 percent of our expenditure for elementary and secondary education. This increase of Federal support should not be accompanied by a decrease in State and local efforts, for a shared support with all three partners contributing an equal portion of the pie will be necessary for optimum efficiency and effectiveness in the planning and implementing of our educational efforts on a local, State, and national level.

It is both unreasonable and irresponsible to suggest a massive increase in Federal support for education merely on the basis of the necessity to shift our national priorities from killing people, for this justification alone provides no guidelines for the kinds of programs that should be promoted through this reallocation of resources. These guidelines are suggested by Items 2 through 5 above, which this author believes to be the most pressing problems in our society today. The Subcommittee on Education can provide an inestimable service to this nation and to mankind if, in addition to endorsing a restructuring of our priorities, it can agree upon the most pressing human needs of this country and propose models of educational intervention which will ameliorate these needs. Documentation of the four major problems suggested at the beginning of this paper is more extensively and authoritatively provided by other sources; therefore, for the purpose of this paper let us just briefly mention the forces that lead to the specifying of these four problem areas.

The need to structure programs to decrease racial strife in this nation is reiterated each day in the mass media accounts of the racial disorders which have shifted in the past 24 months from our great cities to our middle cities and even small villages. Salient causes of this strife are specified in the 1967 Report of the U.S. Commission on Civil Rights, *Racial Isolation in the Public Schools*. This report documents that "Racial isolation in the schools, then, is intense whether the proportion of Negro enrollment is large or small, whether they are located North or South." (p. 7). Consequences of this isolation were clearly delineated by the Civil Rights Commission:

> 1. At sixth grade, the average Negro student is about one and one-half grade levels behind the average white student in verbal achievement. By

> the time 12th grade is reached, the average white student performs at or slightly below the 12th grade level, but the average Negro student performs below the 9th grade level. (p. 14)
>
> 2. The income of Negroes has risen over the years, but their situation relative to white Americans has worsened. . . . The distribution of occupations for Negroes and whites reveals much the same situation . . . Within the Negro population, there also is a growing gap separating the poor from the relatively affluent . . The closer the promise of equality seems to come, the further it slips away. In every American city today, most Negroes inhabit a world largely isolated from the affluence and mobility of mainstream America. (pp. 14–15)
>
> 3. Both Negroes and whites are less likely to have associations with members of the other race if they attended racially isolated schools. Racial isolation not only inflicts educational damage upon Negro students when they are in school, it reinforces the very attitudes and behavior that maintain and intensify racial isolation as well. (p. 114)

Thus the structure of our educational system is contributing to traumatic polarization of our citizens into, literally, Black and White camps. We must bridge this chasm, and a critical foundation to this bridge must be erected with Federal programs in elementary and secondary education which will not be forthcomiing if we rely upon Local and State efforts.

A problem related to the racial strife in this nation is the increasing urbanization of our population. This increasing urbanization not only exacerbates the problems of racial strife suggested above, but also it renders inappropriate an educational system designed for a rural society. School facilities, scheduling, and programing must all be restructured to accommodate our predominantly urban population, for we cannot solve the educational problems of this country if we do not solve the problems of our urban education.

Another factor to be considered by the Subcommittee in proposing a restructuring of our educational system is the need to provide for an education as effective in instilling humanistic values as we now are able to instill technological skills. This need was effectively stated by Arthur Koestler in an article in the October 19, 1969, issue of *The New York Times:*

> There is the striking, symptomatic disparity between the growth curves of technological achievement on the one hand and ethical behavior on the other—or, to put it differently, between the power of the intellect when applied to mastering the environment, and its impotence when applied to the conduct of human affairs. In the sixth century B.C., the Greeks embarked on the scientific adventure which, a few months ago, landed us on the moon. That surely is an impressive growth curve. But the sixth century B.C. also saw the birth of Taoism, Confucianism, and Buddhism; in the 20th century, of Stalinism, Hitlerism, and Maoism. There is no discernible curve.

Finally, we must constantly seek more effective education as we increase our national commitment to education and strive to ameliorate racial strife, educate in an urban environment, and humanize the entire educational enterprise.

The Coleman Report has documented our present state of educational ineffectiveness by pointing out that the most influential factors in a child's education are related to his home environment and that of his classmates, and the in-school variables which influence the success of his education are far less powerful than the eternal forces which seem to assure or preclude success before the school has any effect whatsoever. We must structure new programs for education with the realization that some new efforts will be a failure, just as some military weapons systems fail to become operational in spite of massive expenditures in their development; and, therefore, a plea for more effective education is not a plea for perfection, but rather is a plea for evaluation and accountability in the educational efforts designed to meet the needs suggested above.

If we accept the need to reorient our national values in order to increase dramatically the Federal support of elementary and secondary education, and if we concur in the problems which are of highest priority for a national effort, we then must suggest programs for national support which will save our schools in the seventies.

The following suggestions for national support evolve from the definition of priority problems given above. Certainly, additional programs can and must be proposed, but the following list suggests the kinds of efforts which should be endorsed by the Subcommittee:

1. Urban education should be provided in education parks serving up to 20,000 students from inner city and suburban areas. Since these educational parks will cut across municipal and State lines, and since the construction of these facilities should be coordinated with mass transportation systems and public parkland complexes, the Federal government is the only potential source of funds great enough to finance the creation of education parks.

2. Within educational park complexes, local control and responsibility should evolve through the creation of advisory boards of parents for subunits of approximately 2000 students.

3. In order to provide a model of optimal urban education, the public schools of the District of Columbia should be funded at the rate of $3,000 per year per student.

4. Regional educational service centers to provide special education, vocational education, and central computer capabilities should be created for schools in rural areas or on the fringe of metropolitan areas.

5. Categorical aid for the development of the humanities should be offered by the Federal government following the pattern of NDEA grants.

6. Education for three- to five-year-olds should be supported through construction and general operating grants from the Federal government to local educational agencies. We now know that a significant portion of a child's learning takes place before we begin formal schooling, yet if education for three- to five-year-olds is introduced at the same rate as we introduced kindergartens, we will not have an adequate "preschool" system in the year 2000!

7. Projects utilizing community resources to supplement traditional educational components should be supported because of the potential for improved instruction, greater economy, and greater accountability.

8. Training programs for teachers and other adults working with children should be seen as critical to the improvement of education in the seventies. The Coleman Report documents the critical role teachers play in education, but we must work also to create a variety of roles through differentiated staffing patterns which will provide for more effective utilization of our human resources.

9. The Federal government should continue to support educational research, but more importantly should act to facilitate the implementa-

tion of the results of research. For example, a computerized index and abstracting service on a regional basis patterned after "Medindex" could make the data now available through ERIC far more accessible.

10. All projects supported by Federal funds should provide for independent assessment of the achievement of agreed upon behavioral objectives. Unlike some current projects in performance appraisal, however, success or failure should only be measured after enough time has elapsed to allow for basic change and after the novelty of a new program is no longer influencing results.

Massive new Federal efforts in education, geared to the top priority problems of our present system best resolved on a national basis, are necessary to produce any significant improvement in American education. The problems and program suggestions above are presented from the perspective of a neophyte administrator in a small, affluent, suburban school system. The challenge to the Subcommittee is to interpret these suggestions from a national perspective and to forge a new future for American school children through revitalized Federal participation in our educational efforts.

IN SEARCH OF A NATIONAL POLICY FOR ELEMENTARY AND SECONDARY EDUCATION

Henry S. Dyer, Vice President, Educational Testing Service, Princeton, N.J.

The theme of this essay is that the most important thing that can happen to elementary and secondary education in the 1970's is that it shall somehow become imbued from top to bottom with a strong sense of purpose consistent with the needs of American society. Those who support the schools and run them have got to come to realize that the mindless routines that now characterize what goes on in most of the educational systems of the country are simply not adequate to the economic, political, social, and personal problems that the up-coming generation will have to face in the next 30 years. To achieve this new focus, American education must acquire what it has not hitherto had: a *national* educational policy and the means to make the policy work.

In elaborating this theme I shall (A) set forth what I hope most people would agree our national goals for education should be, (B) discuss how they can be made sufficiently explicit to provide some clear and compelling ideas of how far we are from attaining them, (C) glance briefly at four conditions in the American educational system which a national policy must confront, and (D) suggest the main outlines of the policy.

The goals

Exercises in formulating broad goals for education are centuries old and have usually released a torrent of high-flown verbiage that has had little or no effect on what actually happens in the schools. (1) As a consequence, the managers and operators of the educational enterprise have tended to become impatient with the goal-making business. They regard it as a waste of time that merely interferes with what appears to be the more pressing business of building buildings, balancing budgets, pacifying parents, and damping down local controversies. They have typically been so wrapped up in the problems of providing the means of education that they have paid little attention to its ends. (2)

In my view this widespread inattention to the ultimate goals of education has been and continues to be socially disastrous. Unless the people of this nation—educators, politicians, ordinary citizens—can put together and agree upon some clear ideas of *why* they should be spending some $40 billion a year on the multiplicity of things, people, and activities that are euphemistically called an educational "system," they will discover, too late, that the whole confused enterprise is taking them nowhere at all. Therefore, I am suggesting three goals that I think should govern *all* actions that affect the teaching of the young, whether these actions be taken by legislators, school board members, administrative officers, or teachers in their classrooms.

The three goals are addressed to the economic, civic, and personal development of children as they move through the schools to adulthood. Thus:

Personal.—Education should, insofar as possible, help every child become an economically productive adult capable of earning enough to support himself and his family and to contribute his fair share to the needs of the total economy.

Civic.—Education should, insofar as possible, help every child become a responsible and effective participant in the processes by which a free society can take control of the events and conditions that shape the quality of our national life.

Personal.—Education should, inosfar as possible, help every child shape his own life in a way that provides him with good health, enriching personal experience, and a sense of his own worth as a human being.

There are several points about these goals that should be kept in mind.

First, all three of them must be seen as equally important and closely interrelated. The degree to which each one can be achieved is conditioned by the degree to which the others can be achieved. A child is unlikely to become an economically productive and civically effective adult if he feels that life is not worth living; he is unlikely to become civically responsible if he grows up thinking he counts for nothing in the general scheme of things; he is unlikely to have enriching personal experiences or much of a sense of self-worth if his prospects for earning a decent living are nil; and so on. The pervasive tendency to use economic productivity as the one standard for measuring the success of the schools is mistaken. There should be no question of priorities among the goals, since the good life and the good society rest on all three. Parity among the goals is essential if education is to do the job required of it.

Secondly, efforts to attain the goals will always be beyond the scope of the schools *per se*, for education in its full sense is a social process broader than the schools. It has to be recognized that the conditions of the child's home and community life have a powerful impact on the quality and direction of his development. (3) It must also be recognized, however, that this does not excuse the schools, the public media, and related organs of education, from *helping* every child in every way possible, whatever his economic, social, or physical condition, to acquire the attributes necessary for a full and rewarding participation in American society.

Thirdly, the ultimate goals, as I have stated them, should not be confused with the *subsidiary* goals that commonly characterize the work of the schools—providing children with a command of various kinds of knowledge and skills. Skill in reading, for example, is no doubt enormously important for effective functioning in a symbol-oriented society like ours, but the ability to read is not an end in itself. It is a necessary *means* to the economic, civic, and personal ends described above, *and it is only one of the means.* To forget what reading is *for* is to misconstrue its role in the total educational process and to render its teaching dysfunctional. The same holds for all other subjects in the curriculum: history, art, mathematics, science, literature, industrial arts, health education, or whatever. According to the current jargon, this is to say that unless each subject of the curriculum is taught with all three ultimate goals in view, it is without "relevance."

MAKING THE GOALS EXPLICIT

One reason that educational goals of the sort set forth above have thus far had little if any impact on educational practice is that the effort to express them in measurable quantities has been generally neglected. Until we can convert the words of the goals into a set of reasonably precise population indices that show where we are compared to where we think we ought to be, the urgency for improvement will continue to be dissipated in rhetoric. There has recently been a considerable amount of useful thinking and writing on the kinds of indicators I have in mind, but they are still only possibilities rather than realities.(4) In view of the millions of statistics that pour in and out of the innumerable educational bureaucracies of the nation, this statement may seem incredible, but the fact is that practically all such data tell little or nothing about the "outputs" of educational systems in terms of human development; they deal almost wholly with "inputs" (educational expenditures, school facilities, pupil enrollments, teachers' credentials, and the like). And even the input data leave much to be desired.(5)

The National Assessment of Progress in Education which is only just now getting off the ground(6) will be a tremendously important first step toward a better understanding of how much academic learning the school-age and young-adult population has acquired, but it is *only* a first step. Furthermore, the indices it will produce will be largely limited to measuring progress toward what I have called the "subsidiary goals" of education (reading, mathematics, etc.).(7) These will be useful as a start, but in the long run they will need to be supplemented and coordinated with a vast amount of other data if we are to get a well-rounded picture of where we stand in respect to the ultimate goals and to suggest what specific changes in educational policies may be needed to move us more rapidly toward them. Failing this, Federal funds for education will continue to be distributed on the basis of a compromise among hunches rather than on reasonably sound predictions of the benefits to children that the funds ought to be buying.

Some fragments of data presently available may serve to illustrate the kinds of indices I think we need in order to translate the broad goals into definite targets at which the educational enterprise might aim in the next ten years. They will also, I hope, dramatize the shortcomings of the measures on which we must now rely. For convenience I shall refer to these measures as indices of educational need. (8)

Indices of educational need—Economic productivity

One crude indicator of the degree to which education has been helping people to become economically productive might be found in the income levels of those who have spent the same amount of time in school. In 1967 there were some 14 million heads of families in the United States who had finished high school but had not gone beyond it. Of this 14 million, 6 percent had incomes under $3000 and 39 percent had incomes over $10,000. Some part of the spread between low earners and high earners is, of course, attributable to age, to regional differences in the job market, and to the accidents of life that affect the productivity of individuals for better or for worse. Nevertheless, it seems reasonable to suppose that some part of the difference also reflects a difference in the quality of education that the two groups received during their 12 years in school. In other words, from these admittedly questionable data, it is a fair inference that the schools of the country are *not* giving *every* child whatever it takes to become an economically self-sufficient adult. Obviously, however, we need much more extensive and refined information before we can know with reasonable assurance how far from the economic goal we actually are or to what extent the educational establishment can be held accountable for our failure to achieve it.

Indices of educational need—Civic effectiveness

Some similarly crude indices of our position in respect to the civic goal (responsible participation in the processes of society) can be found in election returns and the statistics of juvenile crime. In the off-year elections between 1926 and 1966, for example, the proportion of eligible persons who took the trouble to vote for U.S. Representatives rose from 30 percent to 46 percent—i.e., an increase of 53 percent over the 40-year period. This is real progress no doubt, but when over half the eligible population fails to exercise the franchise, one cannot help wondering how much of the failure is due to the way high school courses in U. S. history and government are being taught. Or, looking on the darker side, one can also wonder whether the schools are doing all they might be doing to further healthy social attitudes in *every* child when upwards of a million children—perhaps some 10 percent of the population under 18—are getting into trouble with the law each year for crimes ranging from disorderly conduct to murder.

Indices of educational need—Personal development

Measures for assessing progress toward the personal goal of education are peculiarly difficult to come by. We still do not know how to put believable numbers on such qualities as self-esteem and the enrichment of personal experience—even though there has been not a little research in attempts to find them. (9) In this regard, however, one can at least wonder about what has been happening in health education when one realizes that over the past 20 years the per capita consumption of hard liquor in the U.S. has gone up 50 percent and the per capita consumption of cigarettes has risen over 100 percent. Indices on the trend in teen-age use of narcotics, if available, might be even more revealing about the impact of the schools on the quality of children's self-perception and personal experience.

If one accepts all three goals as valid for American education, the kinds of numbers that I have suggested for expressing them become extraordinarily important both in giving substance to the goals and in sensitizing the educational community to the problems it desperately needs to face and solve in the next ten years. But we require many more such members and a far wider variety of them than is now available, if we are to get a reasonable fix on how the national and local priorities ought to lie.

THE IMPEDING CONDITIONS

Although a clear conception of goals, expressed by indices of educational need, is the first essential in developing a workable national policy for education, a second essential, if the policy is to have any chance of affecting practice, is an equally clear recognition of certain conditions in the educational system which efforts to implement the policy will encounter. There are four such conditions: political, financial, administrative, and pedagogical. I believe that, up to now, most Federal and State legislation aimed at educational reform has failed of its purpose primarily because it has taken insufficient cognizance of the existence of these conditions and of the ways in which they can frustrate the best intentions of educational policy makers. They deserve a closer examination than is possible in this essay, but perhaps a glance at the highlights will help to keep educational policy from becoming lost in Utopia.

Political conditions

For at least 100 years there has been a continual and often bitter power struggle among the several levels of government over two questions relating to education: Who is in charge? and Who is accountable to whom? The insistence by Local school boards on Local autonomy, on running their own show as they see fit, is deeply imbedded in the American tradition. Any actions by the State or Federal authority, regardless of how benevolent, have been almost universally viewed with suspicion, if not open hostility, and have not infrequently been met with more or less subtle forms of sabotage. The record of efforts to implement the several titles of the Elementary and Secondary Education Act of 1965 is only the most prominent and recent case in point. (10)

From the time that Horace Mann became Secretary of the first State Board of Education in Massachusetts, every State has had its own full share of practically continuous internal warfare over educational matters. The conflict has been exacerbated by competition for scarce tax dollars among the several organs of government at both the State and Local levels. And it has lately been further exacerbated by the rising power of teachers' and administrators' organizations, taxpayers' associations, civil rights groups, and other special interest groups. (11)

It is no use to deplore all this political wrangling. It is simply a fact of life. It is the way the public business in the United States gets done, and it is not likely to change as long as we continue to have the open society we originally chose. Thus, any attempt to establish a national policy for education must reckon with these struggles for power in all their magnificent complexity without, at the same time, losing sight of the main goals.

Fiscal conditions

Another fact of life that bears obviously and directly on the problem of equalizing the educational chances of *every* child is that the wealth of the country is unequally distributed across States, counties, and school districts. As a consequence, some communities are far more capable than others of supplying from their own funds the wherewithal to operate their schools. In 1967 the average personal income per child of school age ranged from nearly $16,000 in the State of New York to under $7,000 in the State of Mississippi. (12) In one well-favored State the value of local taxable property behind each school child varies from over $50,000 in the wealthiest school district to under $3,500 in the poorest. (13)

Money alone of course is hardly sufficient to guarantee that the wheels of education will turn to good effect, but it is certainly an indispensable condition of their turning at all. The States have been trying, with indifferent success, through various forms of State aid, to correct the financial imbalances among their own school districts, but thus far a formula that comes anywhere near doing the full job has yet to be found. The financial imbalances *among* the States remain essentially untouched except for the possible indirect effects of the categorical aid programs of the Federal government, and the magnitude of these effects, financially or otherwise, is still unknown.

Administrative Conditions

The administrative structure of education in the United States is a flawed structure, full of deep fissures, broken communication lines, extraordinary inconsistencies, and amazing rigidities. The functionaries who inhabit its innumerable isolated enclosures are more often than not actuated by a primary concern for the viability of the structure and the vested interest of its occupants than by an overriding concern for the children it is supposed to serve. It is not merely a bureaucracy; it is a *collection* of bureaucracies that stretches upward and outward from the Local school principal and members of his staff (teachers included) to the organizations that surround district superintendents, county superintendents, State commissioners, and the U.S. Commissioner of Education, not to mention the staffs of innumerable State and national agencies that have an official or quasi-official interest in funds and personnel having to do with education. The main result of this administrative tangle is that policies decreed at any level of the hierarchy tend to have little if any effective relation to the live realities that exist in the classroom, and vital information concerning the wide variety of developmental needs of the children who go to school seldom filters up to the decision centers where educational policies are made. (14)

It is easy to denigrate all bureaucracies for being authoritarian, fouled up in red tape, and resistant to change, but a bureaucracy in some form is a necessary feature of any administrative setup of any system of even moderate size and complexity, for it is the only means so far invented for organizing all the different kinds of knowledge and special expertise that are needed to make the system work. Thus, while the abolition of all educational bureaucracies would be a disaster, their reformation is an absolute necessity. The implication of this for the construction of workable Federal policies is to provide some sort of mechanism at the national level for training the sort of administrative leadership that will know how to make educational bureaucracies truly functional and responsive to the problems at the grass roots.

Pedagogical Conditions

One of the pervasive myths on which many of those who complain about the quality of education rely is that effective teaching can be turned on at will. If children are failing to learn to read properly, then, according to the myth, the fault lies in the fact that the teacher is simply not doing something that she knows perfectly well how to do. This myth has an interesting corollary in what has come to be called the "teacher-proof curriculum" (15) wherein it is proposed that the teacher should be by-passed so that machines can take over.

The teaching-learning process is not all that simple. There is still a great deal that we do not know about it, and this blanket of ignorance covers the teaching of teachers as well as the teaching of children. The literature of educational and psychological research over the past 50 years teems with thousands of studies of children's mental and emotional development, teaching methods, curriculum construction, and the like, but the fact of the matter is that most of these studies are remarkably inconsequential and inconclusive.

There are no pat formulas for nurturing the minds of children, and, in view of the enormously complicated and endlessly varied combinations of qualities that make up human beings, it is unlikely that there ever will be. On the other hand, we are beginning to get some glimpses of the kinds of research strategies that can be employed to provide some illumination on the vast number of interrelated elements of the educational process which most educators do not yet realize they require. (16) In my view, the magnitude of the task of getting and maintaining the amount of pedagogical light we need is sufficiently great that only a nationally organized program of research under Federal auspices is capable of bringing it off. More of this presently.

OUTLINE OF A NATIONAL POLICY

In the light of the foregoing, it seems to me that the main lines of a national policy must rest, *first*, on a genuine national commitment to the three goals as I have roughly stated them above; *second*, on a very large measure of freedom for the States and Local districts to find their way toward the goals by any means that best fit the needs of their own children and the community conditions in which they must operate; *third*, on a massive infusion of Federal funds to equalize the ability of all school districts, nation-wide, to meet their needs; and *fourth*, on a Federal system for holding the States accountable for the honest and wise expenditure of the funds.

It will almost certainly be argued that to establish *any* national policy for education would run counter to the Constitutional doctrine that education should be "reserved to the States or the people." If one thinks of "education" as the detailed management of schools and school systems, the argument has considerable validity, and the doctrine looks even sounder today than it was in 1789. For it is hard to imagine an administrative quagmire more horrendous and less educationally productive than the one that would be created if the Federal government were to decree for every classroom in the country what should be taught, how it should be taught, and who should teach it.

This is to say that any attempt to administer the schools from Washington would not only be unworkable; it would be wholly dysfunctional for the promotion of learning anywhere. If there is one thing we think we have learned in the last 50 years, it is that, to be effective, the educational process must be exquisitely adaptable to the changing needs of the individual learner and to the variable and changing conditions of the community in which he happens to be growing up. A national policy for education must not only honor this principle; *it must insist upon it by requiring, as best it can, that every school, indeed every classroom, in the country be maximally flexible in responding to the developmental needs of its own clientele.* Otherwise any movement toward the national goals of education will be indiscernible.

In brief, what I am suggesting is that a national policy must be primarily concerned with the ends of education and with how well the local systems are performing with respect to those ends. It cannot be usefully concerned with the particular means—the curricula, the organizational arrangements, the teaching strategies, etc.—that any school system may find appropriate for its own milieu in achieving the ends.

On the other hand, because of the increasing mobility and interdependence of the national population and because of the enormous common problems—social, ecological, economic—with which the nation as a whole must learn to contend, a common national policy for education with enough leverage to *require* effective performance at the Local level is absolutely essential for the well-being of all of us. For education, as I see it, is the unique process by which a free society attempts to guarantee its own survival by guaranteeing that those who compose it shall acquire the competence and will to conduct their affairs in the best interest of all its members, regardless of differences in race, religion, economic status, or level of ability. Anyone seeking a constitutional warrant for a national policy for education in this broad sense needs only to consider the words of the Preamble: "ensure domestic tranquility, provide for the common defense, promote the general welfare . . ."

One might contend that Federal legislation on educational matters, especially in recent years, already constitutes a national educational policy of sorts. I think this is highly questionable. With no exceptions of which I am aware, each piece of such legislation has been directed at some particular problem or set of problems which appeared to be prominent at a particular point in time and which was concerned with only one or two facets of the total educational process: vocational education, compensatory education, education for the handicapped, education in impacted areas, education in the sciences, and the like. The result has been a patchwork of categorical aid programs each of which has had, at the most, only dubious effects in meeting the educational needs of some loosely identified groups of children while meeting the needs of the majority not at all. Furthermore, this piecemeal approach has been unable to take into account in any systematic and realistic way the changing priorities in the nation as a whole or in the Local districts. In short, a bits and pieces attack on dimly perceived educational problems does not add up to a viable policy for assuring needed improvement of educational services to *every* American child, whoever and wherever he may be. And, in my view, nothing less than this can suffice as a truly national policy for education in the United States.

Some thoughts about implementation

The implementation of the sort of policy I have been suggesting can hardly be accomplished by instant legislation. It will take a good deal of working out by a good many people over a considerable period of time. Meantime, a few thoughts on the matter of implementation may not be out of place in this essay and may help to clarify further what I mean by a national policy for education.

My emphasis on clear goals, backed up by indices of educational need, as prerequisite to any policy, implies that there should be some permanent agency of the government with a mandate to formulate the goals, to keep an eye on how things are going in respect to them, and to report periodically to the Congress and the President in regard to these matters. For this purpose one might conceive of a Council of Educational Advisers with functions roughly similar to those of the Council of Economic Advisers but focused on the input-output data of education *per se*. Their task would be to pull together the necessary data and to use them as a basis for setting definite educational targets and recommending clear priorities both to the national government and to the States. Another of their tasks, which would seem to follow logically from the first, might be to devise the necessary formulas for the disbursement of educational equalization funds to the States and Local districts.

Probably the most crucial instrument for making the policy work is that by which the States and Local districts will be held accountable for the honest and wise expenditure of the Federal funds they receive. *Accountability* is one of the "in" terms these days in educational circles; it has become part of the jargon with broad emotional appeal; but for the most part it has lacked any real substance. Consequently, some consideration of what it could mean operationally for furthering the national purpose would seem to be in order.

It should be noted that I am thinking of accountability as having *two* main elements: (1) holding States and local districts accountable for the *honest* expenditure of Federal funds and (2) holding them accountable for their *wise* expenditure.

Honest expenditure means that the Federal funds must be used, not to replace Local funds that would and should be spent for educational purposes, but to supplement them. This implies, first, that there must be some common procedure for determining how much the Local financial effort *ought* to be as well as a procedure for determining how much the Federal supplement should be to bring each district up to par. Anyone who has wrestled with the problem of devising such procedures knows that there are no easy or ready-made solutions. This problem is infinitely complicated by the pervasive use of the regressive property tax for the Local support of education, and it is further complicated by the fact that the cost of properly educating children inevitably varies from child to child in ways not easily determined. Thus, appraising property values and counting noses hardly constitute a sufficient basis on which to erect an equitable system for arriving at measures of Local financial effort and need. Despite all the technical (and no doubt political) difficulties, however, the challenge of producing such a system must eventually be met. Until it is, the notion of equality of educational opportunity for all children state-wide and nation-wide will remain an empty phrase.

To work out a method for ensuring that funds for education shall be *wisely* spent presents an even more difficult problem. It is the effort to get around this difficulty that has lured State and Federal educational agencies into the morass of categorical aid programs. What is required, it seems to me, is not a system which mandates from the top what the wise use of educational funds will be—this simply has not worked and cannot work—but a mandated system that enables each local district to decide, on the basis of relevant information, how to spend its funds wisely.

It is safe to say that such a system is not now in being anywhere, but the general principles on which it must be based are beginning to emerge. (17) In essence, it consists of relating measures of pupil learning and development (i.e., school "outputs") to all the factors in and around the school situation (i.e., the "inputs") in order to find out what works best for what kinds of pupils; in other words: an evaluative-feedback system that aims to keep teachers, local administrators, and the State education authorities alert to particular changes in any particular educational system that is required to promote changes for the better in the particular pupils it is supposed to be educating—the gifted, the not-so-gifted, the rich, the poor, the physically handicapped, the quick learners, the slow learners, the leaders, the followers, and so on through the entire range of young humanity.

Next to finding a way to equalize *funds* for education, probably one of the most important things the Federal government can do in the next ten years is to help equalize the *quality* of education by underwriting the development of such evaluative-feedback systems in all the States and the development of the necessary expertise to go with them. This is a much larger order than most people realize. It will not be accomplished by "crash" programs, hurriedly planned and hurriedly executed, but by an integrated national program of what has come to be called "evaluative research" in which the users are participants along with the experts. Only as such a program materializes will it be possible to hold the schools truly accountable for deciding wisely on how to organize and conduct the educational process in all of its many dimensions.

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THE MEANING OF CHANGE FOR OUR EDUCATIONAL FUTURE

Shirley H. Engle, Professor of Education, Indiana University, and President, National Council for the Social Studies; and Wilma S. Longstreet, Doctoral Candidate in Education, Indiana University, Bloomington, Ind.

What does it really mean to say that we are in a period of change? Man has always known change. From the introduction of the wheel through the age of iron and on to the steam engine the individual has had to learn to adapt to new conditions, frequently accompanied by societal upheaval.

Yet, there is a fundamental difference between change as we are now experiencing it and change as our forefathers were confronted with it. The number of new conditions to which an individual must re-adapt in his lifetime has reached proportions far beyond the imagination of our ancestors. The sheer magnitude of the quantity has left its mark on the very quality of change. As Alfred North Whitehead underlined back in the thirties, the assumption "that each generation will live substantially amid the conditions governing the lives of its fathers" [1] is no longer a valid one.

Societal man is no longer inserting a new thread into an already established weave. The weave itself is being undone and redone. The gap between the present and the future is growing, making that future, every day, a little less conceivable. The new has come so much and so rapidly that we have been denied the chance of experiencing the transformation in our attitudes and the growth of understanding that was part of change for our forefathers. The young have been so involved in the new that what has been our past has few reference points in their lives. The misunderstandings between the generations have multiplied.

It is within this context that the adult world must, nevertheless, plan for the educational needs of the young. To plan sanely is first to admit that the adult world does not know those needs. What are the consequences of such an admission?

There is, inevitably, the realization that vocational training can satisfy only very limited, short-term goals and may possibly be a way of building obsolescence into the lives of the next generation. The concentration on one or two specialties carries with it the high risk that those particular skills will become unnecessary even within a brief period. Furthermore, undue specialization might impair the intellectual flexibility of the individual so necessary if he is to be able to adapt not only to new working conditions but to the transformation of numerous societal institutions at every level of human interaction.

The great promise of change toward the unknown is that it may yield to man's existence more worthy alternatives from which to choose. Each new alternative available to humanity is a new addition to human freedom, provided that the individual is sufficiently knowledgeable to make his choices as an aware, participating member of his society. If the adult world determines to indoctrinate its attitudes and perceptions of life upon the young through the schools before the young have attained the full range of their reasoning powers, innumerable degrees of freedom will have been deprived the future. The damage that can be done to the future by a present world that does not know but insists on determining is incalculable.

All this world can hope to do is develop clear-thinking, independent individuals who are desirous of finding improved societal ways for continuing, or for beginning, those functions which have proved most desirable for human life. Such a goal can be achieved through the schools. The decisions regarding what will be most desirable for the future must remain with the future.

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[1] Alfred N. Whitehead, "Introduction in Wallace B. Donham, *Business Adrift* (New York, McGraw-Hill Book Co., 1931), pp. XVIII–XIX.

This is not to say that the present should in no way influence the future. This would be a ridiculous and unnatural state. The traditions, beliefs, and values held by a society are inevitably communicated to the young. There are parenthood, and the church, and the laws that influence and mold the child at his most receptive stage, i.e., between ages 1 and 6. However, if the schools reiterate this acculturation, it will be the rare child that will retain enough perspective and intellectual vitality to carry out those conscious adaptations which the changes brought about by the adult world have made necessary. It will be the rare child that will attain sufficient objectivity to judge the worthiness of the alternatives in the light of his own clearly-chosen, well-understood values.

The linguistic ambiguities that frequently lead to a breakdown in communications between people of all ages are a bane of our own times and a prime example of how unthoughtful acculturation can lead along a path of contradictoriness such that the validity of long-held values is unwittingly undermined if not destroyed. Thus, we speak of equality before the law, but make a grave offense of a broken window or vagrancy associated with the Hippies, a minority group, while some large industrial complex, in all legality, continues to entice the public to smoke cigarettes, considered a major cause of the increased rate of lung cancer incidences. In the same way, we speak of "democratic" means of reaching our goals but have given no such means to the almost 7 million college students on our campuses today. The excuse often is that they are too young. Yet, they are old enough to kill and be killed in a war such as Vietnam, and the bureaucratic machinery to make certain they go is impressive; they are old enough to pay taxes and go to jail with hardened criminals, and the bureaucratic machinery is equally impressive. But what means—legal means—have we given these young people to express their opinions and their own needs in our so-called "democratic" society? Most of the student governments for which they are permitted to vote are powerless bodies dealing with such inconsequential problems as where the prom should be held. Most "elections" in schools are farces, and the students know it. What can "democratic" signify for them?

The list of linguistic ambiguities that the adult world consistently makes use of is long and does not end with high, idealistic expressions. What, indeed, are the positions of "leisure," "work," "laziness," "featherbedding," "overproduction," "inflation," etc., today in a country that is at the threshold of a period in which human effort and energy are in overabundance? We must face our meanings. The language we are using today contributes, in no small way, to our incapacity to see the realities of our times. It presents our attitudes and values in molds that require no prior thought. If we are to help our children become thoughtful, intellectually flexible participants of the future, we ourselves must begin the search.

An honest, all-out study of the ways our most pivotal words have been and are being used would seem the most effective way to begin. In other words, a sufficient sum of public money should be allocated for the purpose of clarifying our meanings and weeding out their contradictions and inconsistencies. Experts from philosophy, logic, and the behavioral sciences might comprise the members of such a study committee.

This investigation could eventually become an ongoing part of the educational program. We do not need to hand our children a series of conclusions. Let us bring them into our problems and look for solutions more honestly—which seems to be what the college student is most asking for at present.

Such an investigative approach (to be distinguished from an inquiry approach insofar as the solutions may never be reached) could be extended well beyond language studies. History has so long been presented as a gospel of unquestionable facts that few have realized the uncertainties and the real problems of attaining objectivity which accompany the honest historian's thoughts. Many, especially among the young, wonder how so much black history has been found so unexpectedly.

Civic studies have long been insincere, useless studies. They have repeated the ideal states of a Constitution written long ago, in an age of different problems. What a shock it must have been to the young to watch the political conventions on television. What a shock it must be to learn that the Army has intentionally concealed some unfavorable fact, or that a Supreme Court Justice might be impeached for financial improprieties. It is time we shared our problems with the young instead of whitewashing them. It is time we investigated together from school age on up.

Even in areas that tend to be more vocationally oriented, such as the study of computers, we must do all in our power to give the young perspective. Thus, before the study of any one computer language is undertaken, the underlying mechanical, mathematical, and logical bases of all computer languages should be thoroughly gone into. The limitations, the problems, and the failures of these machines should be a real topic of study.

What we have to give our children, in every area of education, is not deep insight into the best future or the best way to act in that future, but the integrity of searching thoughtfulness. We can help them to be intelligent, aware participants of their future.

DIRECTIONS FOR THE SEVENTIES

David N. Evans, Executive Director, Upper Midwest Regional Educational Laboratory, Minneapolis, Minn.

To plan for the seventies, we must observe present trends, anticipate contingencies that are likely to occur, and list the resources and innovations which are needed to meet those contingencies.

The dynamics of society cause certain problems to become more critical than others over a period of time. It is very likely that the critical problem areas of the seventies will be the same as those of the sixties though they will have different dimensions, and they will exist in different environments. The educational system of the seventies will have to provide quality education to much larger numbers of people than the system provided during the decade just past. These larger numbers come from absolute increases in population, extension of age spread for formal education, and from inclusion of disadvantaged and handicapped learners formerly only marginally in the system. The emphasis will be on *quality*, regardless of numbers, and this emphasis delimits the problem. When the problem is focused to its essential point, quality, the other problems, such as finances, personnel, and plant, become constraints within which the problem of quality must be solved. Quality requires criteria for judgment, that is to say it requires measurement and the comparison of various alternative ways to reach the desired level of quality. Briefly, a scientific approach is required.

There are trends in solutions as well as in problems. A great new army of educators called paraprofessionals is being recruited and trained. Many school activities are being segregated by the classic division-of-labor method so that more professionals other than teachers are in daily contact with children. These solutions to educational problems are being confounded by the organizations' tendencies to retain old structures and methods, to simply add the new to the old. While there may need to be more specialists operating the system, the need for and the effective use of such specialists should be decided on the basis of scientifically derived criteria for quality performance. A piecemeal approach based on the hope that more of the same will do the job should not continue to be used. A systematic process which a school can follow to change its system while it continues to operate needs to be developed and put into practice.

More subject areas are being pre-empted by the schools because existing societal arrangements can no longer do the teaching adequately. There are many examples, all explainable in terms of society expecting the school to resolve social problems. A current trend is a counter-action, in which education theorists are trying to find ways to have formal learning take place in environments other than the school building. The success of this trend will depend upon the development of a learning reinforcement system which is precise and will work outside of the formal school environment.

The question of what should be taught looms larger than ever. The knowledge explosion is a well-known phenomenon, though its implications may be only dimly seen outside educational circles. But it is well enough understood so that the question of relevance, with several very different meanings, is being raised in many sections of society. A way must be found to throw out of the curricula things that do not matter, or subjects and processes that get in the way of learning what is important. Precise measurements of what is being taught, what behavior is the end product of instruction, is necessary data to support decisions on what should be taught. The question of what is important requires continuous revisions of answers.

All of these large questions have many corollary questions, and they all have the fate in the present system of becoming questions handled by administrators who think primarily in terms of administrative arrangements, financing, governance, staffing, and so on. The learner often gets lost in the process. Means have a way of becoming ends, and the real ends are lost sight of. The greatest advance in education would come if all concerned could subordinate everything and everybody to the end of increasing desirable learning in the learner.

Our first prediction for the seventies is that those who repeat the substantive and procedural errors of the past will not be the effective innovators of the seventies. It is a safe prediction that the workable evolutionary programs of the seventies will proceed from the base established in the sixties. This base consists of the following findings:

1. Neither educators nor society as a whole is willing to wait for the slow development of effective means. Whatever means may be chosen must show immediate improvement as well as prospects for continued growth and flexibility. The end which is sought is behavior change in the learner, and that must not be lost in the day-to-day concern with means. Behavioral science can demonstrate immediate improvement and has an almost limitless potential for development. It has the considerable advantage of continually dealing with ends, automatically assigning means to their proper role.

2. Past efforts at improvement have fallen short of goals because of unrealistic conceptualizations and piecemeal attack. The intuitive conceptualizations and bits and pieces approach to which educators and researchers have become habituated must be changed if we are to avoid past errors. Here, again, the scientific approach, based on measurement, naturally encompasses disciplines and empirically derived concepts such as systems engineering, programmed instruction, experimental analysis of behavior, behaviorally stated objectives, ecological analysis, and computerization. A multi-disciplinary approach, in which the disciplines are complementary and not antagonistic, has the best prospects for vanquishing the complex problems that are generated in the complex educational system.

3. A multi-disciplinary approach requires a management model and since we have opted for science and measurement, the model must depend upon measurement from which scientific principles may be derived. All of the disciplines and empirical concepts should interlock through measurements.

4. The kind of complicated and sustained research and development which is needed can be financed only by the Federal government under present tax structures. It may be that State departments of public instruction or large districts may be the most efficient administrators of the monies, in which case the administrators would have to become better cost-effectiveness judges. Effectiveness must be judged on the basis of desired behavior change. Tax and other pertinent laws might well be adjusted to foster even greater private funding than is now the case. However, there must be a differentiation made in the financing of organizations devoted totally to research and development and those organizations which operate the schools. It makes more sense to finance these research and development organizations from the Federal Government directly and to supply financial aid to local and State school administrations to apply the findings from the R & D organizations. The criterion for judging who uses the money and how they use it should be the degree their behavior management systems result in quality education.

5. Research and development should have as its aim the increased rate and quality of learning in the individual. During the development of the process and the environments which will reach that end, the teaching/learning process should evolve as a science based on learnable principles, a long distance ahead of its present status as an art which cannot be transmitted with any surety. Perhaps we can look forward to having a few colleges of education, before the end of the

decade, which use curricula and methods that produce teachers or instructional scientists.

The foregoing comments have dealt in very general terms with what seems to be the best available method to attack the problems of the school systems, the general strategies of research and development. Trends in those directions are now observable. It is very likely that the major thrust in educational research and management will take this scientific direction.

It is not enough, however, to devise a system of instructional management which will insure individualized learning to capacity. The question of what should be taught, or what is worth learning, is continually with us. On this perennial question, experts are in agreement that children will have to learn more than their parents had to, that what they learn must be relevant to their and society's needs now and in the future, and that they should learn how to learn continuously. Responsibilities and those behaviors which, when expressed, are usually called attitudes or values are necessarily included in the learning objectives. All these matters are of basic importance and require a sustained and widespread effort. While a behavioral approach with its corollary disciplines promises to be the most effective method to reach curriculum goals, the goals have to be decided upon. Quite different skills and disciplines are needed to make those decisions. When the goals have been decided upon by persons with knowledge and skills in defining the needs of the developing culture, the behavioral scientist can express those needs in behavioral objectives and establish and maintain management systems that are necessary to produce quality performance.

In summary, the Federal Government will have to support education on a massive scale to get it out of the past and into the future. The support should go first to research and development organizations which have demonstrated potential to produce, and to the school districts which will accept scientific findings and use individual learning as the criterion for their cost-effectiveness judgments of system performance. R & D organizations should be expected to develop answers to the question of what should be taught and to the question of how the learning is to be accomplished. On the latter question, experience has shown that a total system must be developed, one which encompasses teaching practice, management, training articulation, and the means and strategies for continued monitoring and improvement through research and development.

EDUCATION IN THE SEVENTIES

Rupert N. Evans, Professor of Vocational and Technical Education, University of Illinois, Urbana, Ill.

Education as an institution and as a process will change between now and the end of the 1970's. The direction and amount of the change are not certain, but it is certain that society can greatly affect this direction and amount. The following comments suggest ways in which change is needed, ways in which it is likely to occur, and ways in which society, and the Federal Government, in particular, should attempt to affect these changes.

Recognition That Segregation by Social Class Impedes Education

More and more evidence is accumulating that when students are segregated by social class, education of all students suffers. For example, when half or more of the students in a school come from the lowest socio-economic class, the amount learned by all of the students decreases.

This suggests that in the 1970's we will look for types of school organization which minimize segregation by social class. Comprehensive high schools and community colleges will replace separate academic and vocational and technical schools. Substantial scholarship programs will enable colleges which have virtually no lower-class students to attract more such students. School consolidation proposals will be reviewed not only to see that they provide adequate size and financing, but also to see if there is gerrymandering to include only students from a particular socio-economic class.

The greatest force for socio-economic segregation is likely to come from the general availability of computer-based education and guidance programs. By the late 1970's it seems certain that computers serving 5,000 to 10,000 students each will be a reality, and that costs will involve purchase of a $600, 1,000 input-output station, plus an operating cost of 25 cents per pupil hour. Since only a telephone line will be needed for communication with the computer, many middle-class homes will have such a station. But almost certainly lower-class homes will not be able to afford one.

Already, the middle-class, but not the lower-class, home can buy a wide variety of "toys" which have broad educational value. The education provided by toys, games, encyclopedias, magazines, etc. appears to be a major factor in determining the educational success of students. If computers are even more effective educational devices, the lower-class student who cannot afford access to a computer is certain to be greatly disadvantaged.

It is possible that the Federal Government may need to subsidize computer stations for lower-class homes, and to establish computer access centers which are even closer to home than public libraries are now.

Development of Teachers and Leadership Personnel for Education

For many years we have known that the colleges in this country were preparing far too many teachers in certain secondary school and college teaching fields, and far too few teachers for early childhood education for elementary schools, for school libraries, for special education, for most vocational and technical education specialities, for mathematics and physical science, for women's physical education, etc. What is generally *not* recognized is that the Federal Government has played a very minor role in supporting teacher education, and the role that it has played has often not taken these quantitative shortages and surpluses into account. For example, there has long been a surplus of history teachers, yet this field has received some of the largest amounts of Federal funds spent in graduate school teacher education. Indeed, it has been generally true that the more teachers of a particular type were needed, the less Federal money was spent in that teaching field. The reasons for this include the award of funds on the basis of prestige instead of on the basis of need, and the award of funds on a project proposal basis. In those fields where grave shortages exist, teacher educators have been so busy trying to meet the need that they have not taken time to write the elaborate proposals necessary to compete with proposals prepared by specialists who have plenty of time for proposal writing because they have little else to do.

The U.S. Office of Education leadership now seems to recognize this error and to be interested in correcting it, if they can get adequate data on teacher surpluses and shortages. The data problem is addressed elsewhere in this paper, but it should be pointed out here that the Department of Labor collects and distributes basic information on only three classes of teachers: those in elementary, secondary and higher education. This assumes that secondary school teachers of English and of auto mechanics are interchangable, which is nonsense, of course.

In the 1970's, it seems likely that data on the demand for teachers will be collected by subject matter field and that Federal funds for teacher education will take quantitative shortages into account in awarding funds.

In addition to supporting the development of adequate numbers of well qualified teachers, it seems likely that the Federal Government will invest in the development of school administrators, curriculum developers, and experts in the evaluation of educational programs.

Continued Improvement in Vocational Education

Vocational education has been modified considerably during the 1960's, with many of the improvements being due to the effects of the Congressional actions taken in 1963 and 1968. The 1970's should see even greater changes.

It seems likely that vocational education will assume a role as the major reform element in all of education. By pointing out the relevant elements of general education, it persuades students that these elements should be learned. But, simultaneously, it calls attention to the irrelevance of much of what is being taught under the label of general education.

A considerable portion of school content was developed in classical Greece and Rome and was designed for a society which required slaves to do much of its work. Even now, the school assumes that it should educate the leaders of society, with the slaves being replaced by a working class which is treated as if it were subhuman. This is the only way of explaining the current emphasis in high schools and 4-year colleges, now that the myth of continually increasing leisure for everyone has been exploded.

The academic groups which set out to collect data to justify the removal of vocational education from the high school have, instead, found facts which demand the removal of the general curriculum (which produces 66 percent of the high school dropouts) and the revision of all curricula to include material which is more relevant for life. During the 1970's, the general curriculum will be greatly modified or abandoned.

The success of high school cooperative education programs (in which the student goes to school half-time and works the other half-time in regular employment which is related to his occupational goals) suggests that these programs will be rapidly expanded in high schools and community colleges during the 1970's. The 1968 Vocational Education Amendments permit payment to employers of excess costs of such training. During the 1970's this provision will be implemented for the first time.

A related program, called work-study, has less educational value because the work done by the student is unrelated to his educational goals. It does appear to be useful in keeping students in school by letting them earn while they learn. During the 1970's, work-study should gradually be replaced by cooperative education.

In North Carolina, about 2,000 convicts are employed outside prison walls under a work-release program which costs the state $2.5 million less per year than employing them inside the prison. During the 1970's it is possible that work-release programs will be combined with related educational programs to develop cooperative education for convicts. The Federal Government should assume leadership by supporting programs of this type.

High school enrollments in vocational education curricula are likely to increase from the present 25 percent of males and 40 percent of females to over 50 percent for each group. And both the vocational and college preparatory curricula will design programs to meet the needs of students who want to attend the community college. Community colleges will replace junior colleges which provide only college transfer programs and will markedly expand their vocational and technical offerings.

New Administrative Structures in the Federal Government

Education which is relevant to an individual's needs inevitably makes him more employable. Vocational and manpower education which is relevant to an individual's needs inevitably educates him more thoroughly and shows him ways in which education really is relevant.

Vocational and manpower programs are administered by some eighteen Federal agencies with no more than token coordination. Even in the Congress, different committees are concerned with these interrelated programs.

In the 1970's, we should see the development of a Department of Education and Manpower Development, and closer liaison between the congressional committees which have responsibilities in these areas. Joint hearings and joint employment of committee staff would seem logical.

Early Childhood Education

The evidence is clear that very young lower-class boys and girls decline each year in their ability to learn until they reach school age. They do not have the toys, the conversation, the books, and the visits to interesting places which are accepted as normal in the middle-class home. The earlier that lower-class children are placed in school, the more their ability to learn is improved, and the greater chance they have of succeeding in the regular school.

Head Start was an attempt to capitalize on these facts, but it came too late (usually at age 5) and lasted too short a time (often only a summer) to make a great deal of difference. Moreover, few teachers knew how to work effectively with such young children.

During the 1970's, an increasing proportion of lower class youth will be enrolled in school at age two to four, for programs extending throughout the year. The Federal Government should assume responsibility for seeing that adequate numbers of early childhood education teachers are prepared, and for grant-in-aid programs which will encourage states to provide free early childhood education programs at least for lower-class youngsters.

Educational Data

Lazarsfeld coined a term, "social bookkeeping," to describe the kinds of information which need to be collected and assessed regularly to see how we are doing as a society. We have much such data about hogs, strikes, and wholesale prices, but almost none about education. What little we do know is almost invariably three or four years out of date by the time it is received.

One reason is that almost all educational data are collected on a voluntary basis. The Federal Government asks each State to collect information, and the State asks each school district. If a school district cannot or will not provide the information, the State makes a guess, and after three or four years, forwards its data and guesses to Washington. Sampling studies, such as those which give us rapid and accurate information on unemployment, are almost never used in education.

During the 1970's the U.S. Office of Education will begin to discharge its hundred-year-old obligation to collect meaningful, up-to-date information about education which will allow us to make decisions based on facts rather than hunches. The Congress can make this prediction a reality by providing funds for regular studies based on sampling instead of counting.

EDUCATIONAL AGENDA FOR THE SEVENTIES AND BEYOND

Mario D. Fantini, Program Officer, The Ford Foundation, New York, N.Y.

If we are to profit from the valuable educational experience of the sixties and not repeat some of the costly errors, we must develop a new set of guiding asumptions for the seventies and beyond. The educational activities of the sixties, whether Federal, State, or local, were based on a set of assumptions developed largely as a reaction to crash programs dealing with the poor, i.e., those classified as disadvantaged.

The first assumption of the sixties had to do with the nature of the educational problem. The use of such terms as "culturally deprived" or "culturally disadvantaged" carried with it the notion that there was something wrong with the learner, with his cultural and environmental deficiencies—not with the school and its educational process. In short, we assumed that the problem was with the student, not the school, with the client rather than the institution.

With such a diagnosis, it made sense to mount programs of compensatory education, i.e., concentrated remediation of the "disadvantaged" learner with the aim of rehabilitating him to fit the existing school. Most of our Federal programs of intervention—most notably Title I of the Elementary and Secondary Education Act—were compensatory in nature, attempting to get learners to adjust to schools rather than the other way around.

It was not until the latter part of the sixties that we began to raise questions about compensatory education. Reports from the field began to indicate that the results were not encouraging.

Consequently, any appropriate assumption for the seventies shifts the problem from the learner to the institution. The problem is institutional obsolescence. We are asking the standard school, which was forged in the nineteenth century, to solve twentieth and twenty-first century problems. The schools as presently standardized cannot meet the challenge which universal public education demands. The schools as major social institutions simply do not have the capacity to deal with diversity. We are asking public schools to become the major instrumentation for solving many of our social ills—poverty, racism, alienation, powerlessness—while also responding to the manpower needs of an advanced technological society. In short, we have given public education a mission for which it presently is not prepared. Faced with these growing demands, schoolmen have responded the only way they could, through an add-on strategy, i.e., building layers onto the standard educational structure, while at the same time keeping the present system running. Thus, we have added vocational education, special education, adult education, early childhood education, etc., but each has remained separated from the other.

The result over the years is that the total educational system has become ponderous and unresponsive to the growing aspirations of those who use schools. The basic charge for the seventies, therefore, is institutional reform.

The second major assumption of the sixties was that more money was needed for public school improvement. While on the surface this does not appear to be a fallacious assumption, it becomes so when more money is used to do more of the same thing. When, for example, more money is used for more reading teachers, more counselors, more psychologists who try to rehabilitate the learner to adjust to the conventional school, then "new" money is used in old ways. Federal money made available to public education in the sixties was "new" money which could have been used in *new* ways, thereby providing guidance for a better usage of the old money.

We have been pouring money into an outdated system, and if it continues, we will end up with an improved, outdated educational system. Putting more money into the present system is like putting money into an old car—after a point, diminishing returns set in. We are well into this stage.

In New York City, for example, the school system doubled its educational budget in less than a decade. Taking into account inflation and rising costs, the doubling of expenses has produced no significant difference in results. We assume, for instance, that we should continue to build schoolhouses. The Parkway Program in Philadelphia—the

"School Without Walls"—used the elm as a campus and saved the school district $15 million on construction costs alone.

The question for the seventies must be "More money for what?" Assumptions undergirding the fiscal policies for the decade of the seventies must center on the effects or results of various conceptions of education, i.e., given the same per-pupil cost, what are the results of different educational approaches.

A third assumption of the last decade had to do with the notion that the only legitimate party of interest in education was the professional educator—an administrator. It was his responsibility to decide how the money was to be spent. However, the sixties also saw the rise of the parties closest to the teaching front—teachers, students, and parents. The seventies will see an increased voice of these major parties of interest in educational decisionmaking. Consequently, the assumption for the seventies must emphasize the consumer of schools—parents and students as well as teachers and administrators. An integral part of this assumption is that the *process* is as important as the *product.* The parties of interest must be connected in a *search* for quality education. Ideas, however sound, cannot be superimposed on others. Doing something *for* or *to* others must be replaced by doing something *with* others.

All in all, the realignment of the participants in public education promises to produce richer yields for all the participants:

For the parents, a tangible grasp of the destiny of their children and opening to richer meaning for their own lives.

For professionals, surcease from an increasingly negative community climate and, even more positively, new allies in their task.

For the children, a school system responsive to their needs, resonant with their personal style, and affirmative in its expectations of them.

If the seventies are to focus on institutional reform, then activity will be necessary in at least three pillars of the present educational system:

I. *Governance.*—There must be a shift from professional dominance to a meaningful parental and community role in the education process. Meaningful participation stands arm's length between professionally-circumscribed participation, on one hand, and total control on the other. It calls for a parental and community role in the matters of budgeting, personnel, and curriculum. The vehicle of participation may be structures at the individual school level or elected bodies on a neighborhood basis. In either case, one of the chief criteria is proximity of educational decisionmakers to the affected schools. The chief political criterion is accountability of the professional and the school system to the community.

II. *Substance.*—There must be an evolution to a humanistically-oriented curriculum and a modification of the skill-performance standard by which educational quality is primarily measured. The heavy emphasis on cognitive subject matter must be at least tempered with materials that bear some relevance to the students' lives and with newer kinds of content and procedures that help ghetto students answer deep personal concerns and often rediscover their own integrity. Curriculum that represents an alien, boring, and false culture must be abandoned (ghetto children can be well educated without being robbed of their own subculture). Evaluative criteria, in particular, must be expanded to include ways of judging student abilities other than by the notoriously middle-class-weighted verbal means.

III. *Personnel.*—The educational system must be opened to a far broader base of talent than the conventionally prepared career educator. The staff of schools must vary along a wide horizontal spectrum from the professional to the layman, the latter including parents, community residents, and students themselves. They must vary vertically as well, to include not only professional educators but also specialists from other disciplines and professions. Moreover, the training of teachers must be vis-à-vis and *in* the reality of community needs and expressions.

With participation, new kinds of educational objectives are emerging. These new objectives do not call for the demise of skill training and academic mastery, but instead call for enmeshing these with a curriculum, mode of operation, and total school staff that are vastly more relevant and adaptable to the learner than traditional systems. The following objectives represent only a sample of those now being called for:

A. *All* students must be given the kinds of education that allow them the opportunity to attend *higher education*, to be *trained for a career*, and ultimately *to obtain a job.*

In essence, this means a shift from the track system of education, which tends to freeze the student within the confines of his class, race, and social group and which does not expose him to *all* types of courses (as well as people) that could enrich his academic, vocational, and interpersonal life. The track system's premise that intellectual failures must be shunted off to less taxing "general" or "vocational studies" can no longer be ascribed to. Increasingly, the motto must be, "There are no learner failures, only program failures;" "zero reject" must be the overarching goal. Program options for individual differences in all areas of learning and individually-tailored educational experiences must be developed.

B. *All students will develop their skills and achieve mastery of academic subjects through a tailored program involving the support of educational technology.*

All that is known about how children learn, relevant curriculum, relevant teaching procedures, multisensory materials, and advanced learning equipment must be utilized. No single program or solution can be applied; instead, a variety from the reservoir of educational technology must be presented.

C. *The schools will serve people*, not just children, as in the community school where all members of the community may become students at any time during their lives.

Such schools must serve the community as a center for a variety of educational, cultural, recreational, and local social development activity (special problems of the community even become regular classroom subject matter) for adults as well as youngsters. More efficient use should be made of the school plant, leaving it open day and night, thereby providing a center to which adults can come for advice on a variety of problems and for training ranging from literacy to skills development.

D. Residents, including students, will *participate* in the process of developing educational *policies*.

The "clients" will no longer take it on faith that the school exists to serve the community; they must take an active hand in determining the nature of the educational programs, policies, and services to insure that the school is continually responsive to their needs as they see and feel them.

E. *Cultural diversity* will be valued and reflected in the curriculum.

Since the traditional public school is bent on assimilating or acculturating children to an arbitrary norm (i.e., reflecting the values and mores of the dominant group in society), it fails to capitalize on diversity or, worse, penalizes pupils who do not surrender their culture. School systems must not only tolerate cultural diversities but should respect them and affirmatively make use of them in curriculum development. It is almost not enough for these schools to offer courses in African, Spanish, and Puerto Rican history, art, music, and sociology. What must pervade these courses or come about through the rest of the curriculum, possibly through the affective domain, are materials and experiences that confront and counteract the messages of inferiority coming from the larger society.

F. Greater efforts will be made to fully *develop a positive self-concept* in each learner.

Curriculum directly related to the student's quest for identity, one that helps him expand his and society's limited ways of defining and evaluating himself, must be incorporated into the very fiber of urban schools.

G. Feelings and concerns about *powerlessness* and *disconnection* will become central to relevant curriculum.

Essential to the psychological health and integrity of all students is the need to develop feelings of some sort of control over what is happening to them and of personal connection with other individuals and with external forces and institutions that will affect their lives. Whether this is done through social action, sensitivity training, group dynamics, or other means, the aim of such curriculum would be to equip children with a richer repertoire of responses in dealing with their concerns.

H. The concept of "classroom" must be expanded to include the community, its problems and resources, and not be limited to the four walls of a schoolhouse room.

The talents of social worker, assemblyman, merchant, industrialist will be utilized, not as speakers in the school, but as clinical teachers in the actual reality setting in the community. The *place* where *learning happens* will not be limited to the four walls of a classroom or to the schoolhouse—the community will become the classroom; indeed, the city or world will be the classroom. We will have *schools without walls*. This will tend to break the dichotomy between *learning* and *living*.

I. *Teacher styles will be matched to learning styles.*

People learn differently. Some do best with the spoken or written word as the main learning process; others by hand tools and materials; others by making charts and graphs; and others through the media of film making and drama. Any of the above, as well as other means, might be used to teach any subject. But for greatest learning impact, the teacher who is most adept and most comfortable using one of these styles should be matched to the pupils who also learn best in that style. By contrast, most schools teach each subject in one style; hence, they reach only those students whose style it happens to be. Result: students are branded failures when, in fact, it is the school that has failed.

J. *Paraprofessionals*, including other students, will assume major roles in *individualizing* learning.

Specialists in the fields of graphics, electronics, visual arts, etc., will assist teachers in bringing three- and four-dimensional perspectives to the learning process.

High on the list of substantive priorities that must be given continued support is the development of new kinds of curriculum.

New linguistic programs will be emphasized. In reality, verbal aptitude is going to continue for a long while in the eyes of the school to be the most highly valued asset of the child. Greater research and related programs and curriculum geared to the whole socialization process (the way people grow and develop) of the child through language must be explored. Culture and language, thought and language, identity and language are areas with which all effective teachers will have to be familiar. Valuing different linguistic forms, whether bilingual or dialect, should receive greater attention in the future. The work of Basil Bernstein at the University of London and Orlando Taylor and others at the Center for Applied Linguistics in Washington, D.C. is important in this field.

In additon, the search for humanistically-oriented content must continue and be legitimatized as curriculum for all children, particularly inner-city students. This is what the students themselves want most. The black and student movements have signaled the importance of content areas that are not among the traditional domains of the school. A generation oriented to the mass media which has committed salient social injustices is asking new kinds of questions about social realities and identity in a mass society. Add to this the problems of racism and alienation and we see that somehow the school must deal with more than just intellect.

"Affective" or "humanistic" content that begins to deal with attitudes, feelings, and concerns cannot be an abstraction; instead, it must be directed squarely at problems such as alienation and prejudice. It must deal with the basic issues of identity (Who am I? What am I worth?); power (those aspects of a person's behavior which aim at providing him with a sense of control, of influence, over what is happening or will happen to him); and connectedness (those aspects of a person's behavior which aim at providing him with a sense of positive affiliation with others). Educational objectives should reach far beyond proficiency in subject matter, to include objectives that deal more specifically with the "skills" of constructive social participation, of negotiation, of expanding one's repertoire of responses to situations, of analyzing the criteria for self-judgment, of expanding one's capacity for self-disclosure, for interaction with and sensitivity to more kinds of others, and to the environment, etc.

Hand in hand with the actual content of education must go continued support in seeking new procedures or processes for putting across the content. Experientially-oriented processes, particularly those in vocational education, have to be sought out, expanded, and refined. Technical support services, including the use of computers, programed instruction, resource personnel, individualized learning kits, drama, role playing, etc., represent another area vital to the learning process that needs further support and experimentation.

The heart of experientially-oriented education is reality. The classroom or schoolhouse cannot expect to duplicate reality, e.g., the world of work. Increasingly, the classroom must be expanded to include the community. Starts have been made in this direction. For example, the Philadelphia Board of Education, in cooperation with the cultural, scientific, and business institutions in Philadelphia, has launched a four-year educational program for students of high school age. Without a schoolhouse, the Parkway Program makes the learning laboratory the actual institution, using organizations in and around the Parkway section of the city. These include such institutions as City Hall, Franklin Institute, General Electric, Greater Philadelphia Chamber of Commerce, Hahnemann Medical College and Hospital, Insurance Company of North America, IBM, Pennsylvania Academy of Fine Arts, the Police Administration Building, and scores of other rich educational settings.

Support must also be given to programs concerned with new ways of training and credentialing personnel. Even if more relevant curricula and teaching processes are developed, they will have little impact if teachers are not prepared to deal with them. Much more responsive ways must be devised to get help to teachers fast, because it is the teacher above everything else who can make a difference with the children. Support must be given for continuous staff training in schools—for released time during the day for teachers to plan, for curriculum development and training, for allowing the most effective teachers to work with other teachers in the school and throughout the system.

Also in terms of personnel, support must be given to programs experimenting with minority involvement and training for minority group leadership in the schools. Community involvement requires the preparation of students, parents, and community residents for new roles in education. Community boards, teacher aids, administrative assistants are only a few of the roles for which minority group training and leadership must develop.

Not the least important is the new orientation and preparation of administrators. Support must be given to significant efforts to train black principals and to programs emphasizing that strong executive leadership means a greater releasing of control to the community, to teachers, and to curriculum specialists. The related areas of certification must also be explored. For it may be that what big city schools need are not experts from the field of education as principals and superintendents, but instead key figures from public administration. As it stands now, however, many such key figures could not be hired because they lack the educational credentials needed in most city school systems.

Increased support must be allowed for the development of model urban school systems which effectively bring together many of the pieces of experimentation heretofore discussed. Such systems would give us the chance to see what various components look like when put together and to evaluate *alternative* working systems more effectively.

Comprehensive vocational education models that provide better educational programs for more students of diverse abilities represent one type of program mandating but instead would include four distinct aims: (1) to identify the talent and learning style of the individual; (2) to give him both physical and social knowledge of the world in which he lives; (3) to develop the skills he needs to sustain and advance his life so that he may be a productive and creative individual in society; and (4) to satisfy the individual's search for his own life values. In the comprehensive vocational model, the means for reaching these options, however, would be different from the means of most public schools in that they put greater stress upon experientially-oriented learning processes.

This model would begin in elementary school with the identification of the individual's talent and personality and acquisition of general knowledge through various learning styles. Vocational guidance would be introduced in the middle school years and would acquaint each student with the workings of industry and commerce to help match his talents with his career objectives ("Who am I going to be?" "What am I going to do?"). The high school would be redesigned as a multihouse organization, organized around learning-style laboratories, each of which would have an interdisciplinary teaching team in the corresponding teaching style. A new institution of higher learning would accompany the model which would accept those with manipulative, social, athletic, esthetic, mechanical, graphic, artistic, or perceptive, etc., aptitutes (i.e., not only those who possess verbal aptitude) and which would attempt to help the student establish some degree of unity and organization for his vocation out of the tremendous variety of knowledge confronting him daily.

Other types of model systems to which support should be given are the "new towns," as in Fort Lincoln, Washington D.C. Fort Lincoln New Town (FLNT) represents an effort in the conceptual state (it is not yet operational) to develop a new, thoroughly integrated community within the Washington city limits on a 335-acre site in Northeast Washington. More than an exemplary housing project, it promises to offer a full range of educational, recreational, and other public services to about 15,000 citizens of every race and social and economic station. FLNT and subsequent plans for other New Towns are being looked to as a solution to many of the most urgent social problems in America. They present the opportunity to design and implement an educational system relevant to the needs of society and involving a new concept of educational goals.

The proposed educational system of FLNT will be composed of many alternative approaches and objectives, including the best of the old system and many of the innovative examples mentioned throughout this paper. These approaches will then be utilized by Fort Lincoln residents to accomplish the educational goals which they have selected. For example, parents will be exposed to a wide variety of alternative early childhood programs. If one group of parents wants its children to have a Montessori-type program and another group wants its children to go through a Summerhill-type program, both options will be available to them in the proposed educational system. Human diversity and individualized programs, quality and more relevant education, specialized facilities, urban education, and teacher training will be the goals of the educational system. Four specific targets of the educational activities are:

1. Skill development, knowledge acquisition, and growth in the individual capacities.
2. Development of personal talents and interests.
3. Growth in social participation.
4. Growth in positive self-concept and sensitivity to others and environment.

Increased support must also be given to community school demonstration districts. Despite the controversies attending many community schools, their educational accomplishments, as seen especially in Ocean Hill-Brownsville, I.S. 201, and Adams-Morgan, warrant continued support and study.

Related to this, and perhaps even more important, is the need for increased support of cooperative planning for school improvement—the planning together of parents, students, teachers, administrators, and universities for new school patterns. An example of this sort of *cooperative planning* is best seen in the Anacostia Community School project which has been planned for 10 schools in Southeast Washington, D.C., with a strong community participation component.

Inherent in the guidelines for any sort of future education funding must be the understanding that there is no single *best pattern* for city schools. While there may be a common set of elements to be dealt with (e.g., demands for community participation, new teacher training, more relevant curriculum, etc.), each city is at a different stage of development (or deterioration) with different dynamics at work, necessitating different diagnoses and prescriptions. In short, appropriate program alternatives—decentralization in New York City, the parallel experimental system in Boston (Committee for Community Educational Development)—will depend upon the situation.

Toward Public Schools of Choice: Increasing Educational Options Within Public Education

At the present stage of education, options do exist for certain consumers, but these educational choices exist *outside* public education—for example, private schools, and parochial schools. However, the problem for the seventies and beyond will be to increase educational options *within* the framework of public education.

The public-school-of-choice system establishes a broadened conception of public education for today's society, one which maximizes decisionmaking for all the parties which have an intrinsic interest in the quality of schooling. The public-school-of-choice system is based on the assumption that there is a fairly *common* set of educational aims (common to the major parties of interest—parents, students, teachers, administrators), but that there are alternative educational approaches for achieving them. The public-school-of-choice concept further assumes that the parties closest to the action—parents and students as consumers and teachers and school administrators as professionals—should have the right to decide on choices from among legitimate alternatives.

The present framework of public education results in one rather standard, monolithic approach to achieving common educational aims.

Alternatives are available to the consumers, parents and students, only outside this public school framework, e.g., private schools, parochial schools, or at best by *chance* inside the public school pattern. This latter point deserves some elaboration. The only real alternative inside the standard public school model deals mainly with personal factors—the strength or sensitivity of a particular teacher or building principal. If a consumer is lucky, he "hits" a good teacher. If the parent decides that she would like her child to be taught by this teacher, she finds the "option" quickly discouraged because the present educational ground rules cannot deal adequately with such demands without serious consequences in the normal operation of the school.

The case of the basic rights of the educational consumer is nowhere more apparent than in our ghetto schools. Student failure is clearly visible over prolonged periods and the frustrated parent seeks options—options which will give her child a better chance for quality education. However, what options are there? She cannot afford private schools. She cannot move to a suburb which is reputed to have good schools. She must accept the standard failing public school. It is little wonder that such parents feel alienated from these schools.

Moreover, the student is equally powerless to seek alternatives. He only knows the one path—and must accept it, adjust to it, or perish.

Moreover, a teacher must accept the standard educational process. What options has she? She is powerless to alter the conventional means and cannot seek satisfaction in other legitimate educational alternatives. The fact is that there are many teachers who feel constrained by the present monolithic system and would welcome options that are more congenial with their styles.

While we are on this point of teachers and other educators, it is well to respond to those who view these educators as "mediocre," i.e., that the more capable persons are in other fields such as medicine, law, government, etc. This notion of mediocrity is often leveled at teachers without considering the institutional environment in which he functions—an environment that literally shapes his behavior, an environment that constrains his capacity and in essence forces him to be mediocre. Creating optional environments, therefore, could awaken new capacities in educators.

A public-school-of-choice model opens the decision to alternative means which exist or can be developed. For example, one set of agreed-upon educational objectives has to do with basic skills mastery and academic proficiency, e.g., reading, writing, English, history. The means for achieving these objectives is the one now presently the standard mode in public schools. They each have norms so that the first grade is followed by a second grade, third grade, and so on. Students who do not proceed according to an age-grade-norm framework are forced to repeat the grade and those who can move ahead a grade are usually unable to do so.

One option to the age-grade system is the nongraded, continuous progress approach. In this scheme, the learner proceeds at his own rate, and there are no age grades as such. How can this option be made available to the parties of interest? The nongraded alternative is known only by one of the parties of interest, namely, the professionals. Awareness of such alternatives is achieved by reading *professional* publications or attending *professional* conferences. Further, they are more available to administrators than to teachers. Administrators have more time to pursue these kinds of professional activities. Students and parents usually have no access as such to professional matters. Consequently, those farthest from the action are those who are most knowledgeable about alternatives. Thus, teachers, students, and parents, those closest to the action—and those who should have access to alternatives—are the least likely to be aware that alternatives exist. Continuing the case of the nongraded alternative, teachers, parents, and students would have the option of continuing the present graded system or developing an ungraded system. If in a school 10 percent of the parents and students and teachers feel that they would like to explore an ungraded system, they should have the right. Under normal circumstances, either the 90 percent overruled the 10 percent, or the 10 percent tried to impose on the 90 percent an ungraded pattern. It is all or nothing on both sides.

Under a free choice public system, both will have their programs implemented. The choice process legitimizes the various options, each geared to a common set of objectives. Alternative approaches need not take place at different schools; they could be found within a single school. Consequently, if the nongraded school becomes the option, then those teachers, parents, and students in the neighborhood schools who have chosen this alternative would be free to formulate a school-within-a-school conception in which the principles of nongrading are translated into action. Basically, people have a right to the option of their choice.

What this free choice process does, however, is not only legitimize the option; it succeeds in making it *operational*, in making it a *behavioral specimen*, which, in turn, begins to *educate* the other parties of interest. Consequently, if the nongraded has better results than the graded pattern, then more may choose this option, but the parties do so because they have been attracted to it rather than having the option imposed. This process is extremely important in terms of protecting the rights of people in our educational system. At the Parkway School, the "school without walls" in Philadelphia, thousands of applications have been submitted to attend the "voluntary" experiment.

We are moving toward a public-school-system-of-choice in which a variety of educational options is offered the consumers (parents, students) and the producers (teachers, administrators). Since the heart of our democratic process is individual decisionmaking, this ideal will get closer to real implementation in our public schools during the decades ahead.

Since we as a nation are getting closer to a common set of educational aims—e.g., maximum individual growth; active, well-informed citizens; career competence; humanely-disposed, mature adults; etc.—we cannot assume that there is only one means for achieving them. Our present educational system represents a rather monolithic means to common ends. Monolithic means rarely provide for diversity and ultimately become outdated.

Using a hypothetical school district in an intermediate-size city that has seven or more elementary schools and a mixed population, a public-school-of-choice model might be structured in the following way:

School No. 1.—The concept and programs of the schools are traditional. It is graded and emphasizes the learning of basic skills—reading, writing, numbers, etc.—by cognition. The basic learning unit is the classroom, and it functions with one or two teachers instructing and directing students at their various learning tasks. Students are encouraged to adjust to the school and its operational style rather than vice versa. Students with recognized learning problems are referred to a variety of remedial and school support programs. The educational and fiscal policy for this school is determined entirely by the central board of education.

School No. 2.—This school is nontraditional and nongraded. In many ways it is very much like the British primary schools and Leicestershire system. There are lots and constructional and manipulative materials in each area where students work and learn. The teacher(s) acts as a facilitator—one who assists and guides rather than directs or instructs. Most student activity is in the form of different, socialized learning projects done individually and in small groups rather than all students doing the same thing at the same time. Many of the learning experiences and activities take place outside of the school building.

School No. 3.—This school emphasizes learning by the vocational processes—doing and experiencing. The school defines its role as diagnostic and prescriptive. When the learner's talents are identified, the school prescribes whatever experiences are necessary to develop and enhance them. This school encourages many styles of learning and teaching. Students may achieve equally through demonstration and manipulation of real objects as well as by verbal, written, or abstractive performance. All activity is specifically related to the work world.

School No. 4.—This school is more technically oriented than the others in the district. It utilizes computers to help diagnose individual needs and abilities. Computer-assisted instruction based on the diagnosis is subsequently provided both individually and in groups. The library is stocked with tape recording banks and "talking," "listening," and manipulative carrels that students can operate on their own. In addition, there are Nova-type video retrieval systems in which students and teachers can concentrate on specific problem areas. This school also has facilities to operate on closed-circuit television.

School No. 5.—This school is a total community school. It operates on a 12- to 14-hour basis at least six days a week throughout the year. It provides educational and other services for children as well as adults. Late afternoon activities are provided for children of varying ages from the neighborhood, and evening classes and activities are provided for adults. Services such as health, legal aid, and employment are available within the school facility. Paraprofessionals or community teachers are used in every phase of the regular school program. This school is governed by a community board which approves or hires the two chief administrators, one of which is in charge of all other activities in the building. The school functions as a center for the educational needs of all people in the neighborhood and community.

School No. 6.—This school is in fact a Montessori school. Students move at their own pace and are largely self-directed. The learning areas are rich with materials and specialized learning instruments from which the students can select and choose as they wish. Although the teachers operate within a specific and defined methodology, they remain very much in the background, guiding students rather than directing them. Special emphasis is placed on the development of the five senses.

School No. 7.—Patterned after the Multi-Culture School in San Francisco, the seventh school may have four or five ethnic and racial groups equally represented in the student body. Students spend part of each day in racially heterogeneous learning groups. In another part of the day, all students and teachers of the same ethnic background meet together. In these classes they learn their own culture, language, customs, history, and heritage. Several times each week one ethnic group shares with the others some event or aspect of their cultural heritage that is important and educational. This school views diversity as a value. Its curriculum combines the affective and cognitive domains and is humanistically oriented. Much time is spent on questions of identity, connectedness, powerlessness, and interpersonal relationships. The school is run by a policy board made up of equal numbers of parents and teachers and is only tangentially responsible to a central board of education.

Although we have gone into some detail to describe several different ways in which schools might be structured, it should be clear that there are many more possibilities. Another variety of the same concept could include two, three, or more models within the *same* school facility. This would permit students and parents to choose the kind of educational environment and style that best meet their needs *without* leaving their neighborhood or community. Open enrollment, an option often publicized by school systems, is usually precluded by zoning or overcrowding at the "best" schools. Where open enrollment is available, special arrangements are generally required for entrance and transportation. For those families persistent in seeking broader educational options, the choice is usually between moving to another school district or city and enrolling children in a private school. A free-choice educational model could resolve these issues on the local level, within a community, school, district, or a single school, by incorporating the alternatives into the public school system.

However, it must be underscored that for public-schools-of-choice to work in our democratic, open society, there cannot be any practice of exclusivity, overt or covert. Discrimination in any form or in any forum, whether based on sex, race, economics, or religion, cannot be practiced. Unless the principle of equality is upheld, public schools of choice may not serve the needs of all people as intended—only those of sectors of the population who would practice exclusivity.

THE EDUCATION OF JEREMY FARSON[*]

Richard E. Farson, Vice President for Ecological Affairs and Dean, School of Design, California Institute of the Arts, Los Angeles, Calif.

My wife and I are expecting another baby this month, and if it is a boy, we will name him Jeremy. He'll graduate from high school with the class of 1984 (that rings a bell, doesn't it). Like all fathers,

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I want the best for him; I want to be sure that his education will be very different and much better than mine—and I think it will.

I think that within the next generation, education will change in every fundamental way. To each of the basic questions—who, when, what, why, where, and how—there will be totally different answers. And welcome changes they will be because today's schools, although they are probably the best in history, are, from the point of view of the learner, hopelessly inadequate. Despite the years and years that students spend sitting in classes, "learning" facts, the number of facts retained is pitifully small. Most students have scarcely learned the three R's. They move on to college to learn the six R's—remedial reading, remedial writing, remedial arithmetic. How many adults can do square root, or calculate percentage, or pass a junior high school history exam, or distinguish between an atom and a molecule? Students have been so thoroughly conditioned against reading that even college graduates read only one book a year. Except in rare instances, education is an agonizing bore for the student and a frustrating trial for the teacher. During 12 to 16 years of their lives, students sit through seemingly endless hours, enduring an experience that seems totally irrelevant to their real lives and concerns. And they feel powerless to do anything about it. In the worst situations they are apathetic and passive; where things seem less hopeless, they turn to open or covert rebellion.

But if we can be certain of anything at all, we can be certain that Jeremy's experience will be very different, for his world—the world of 1984—will be vastly changed.

What will that world be like? What learning experiences will be appropriate to that future? How must education change to provide those experiences? What are the barriers to that change? And what resources can we call upon to bring about constructive change?

I. THE FUTURE: THE HUMAN CONDITION AND EDUCATION FOR HUMANNESS

Today, as never before, we are actively engaged in trying to forecast the future. Military, business, and government leaders are supporting a great variety of studies of the technological changes that bear on the problems they face. We have been told about space exploration and farming the sea, computerized kitchens and waterless bathing, artificial organs and plastic clothing. Held before us has been an exciting picture of a Buck Rogers world, but this picture is false in one important respect. People themselves will have changed as radically as the world they live in.

Nevertheless, we persist in regarding the human being as a "constant," no matter how much the world changes. Perhaps this is because we cannot believe that "human nature" will change. It may be, also, because most of the many projections of the future have been sponsored by organizations that are primarily concerned with technology. Thus by and large our pictures of the future ignore the possibility that human institutions and human values and human nature will change. Surely, we are wrong. Changes in technology will inevitably bring about changes in the human condition.

If we were to plot a curve of the inventions of man to date, we would see that the curve rises faster and faster, with fewer and fewer plateaus. Heretofore, there have always been plateaus on which we could stop and catch our breath after making a drastic change, a chance to assimilate a new invention and adapt to it. But now we are seeing that the curve smooths out; there are no plateaus, no coasting periods, no chances for rest and adaptation. In the future, even more than today, change will not be an episode in our lives, but life itself. Life will be seen not as "being," but as "becoming," as "process." And only those who can live in process and enjoy change for its own sake will be happy. Change, then, is the one thing of which we can be certain.

But change in what? Change in everything! Change in things that are not deeply important to us, such as the material aspects of our lives, but also change in things we care a great deal about, such as family life and human values. Change not only in our work and in our play, but in our hopes and dreams; change not only in our needs and demands, but in our feelings, in our relationships to the world, to others, and to ourselves. The rising tide of technological invention will change the way we think, the way we learn, the way we feel. Indeed, it will change, quite literally, our sensory perceptions of the world as we enter what has been called the "total-information ecology."

Society will become far more complex than it is today. And this means that our relationships will be more complicated, more burdensome, but if we prepare ourselves, more fulfilling. We will have to become flexible enough to enjoy the transitory quality of life. We will derive pleasure and meaning from temporary relationships and fleeting encounters. Our personal adjustments to life have been anchored in familiarity, stability, the reliable sameness of things, the permanence of values, places, relationships. In the future, our adjustment to life will be based on our ability to cope with the process of change. We will have to put our trust not in the solidity and stability of the environment, physical and emotional, but in ourselves, in our own organism, our own capacity for growth, for adaptation, for creative interaction with a fluid world.

What will be some of the major changes in values that will require an aboutface in educational goals?

Perhaps one of the most significant changes, already visible, is the shift away from work-oriented values derived from our Puritan ethic. As cybernation and automation make human labor-power redundant, work will no longer be valuable as an end in itself and as a central—and essential—human activity. In the value system of the future, a person will be worthy without having to be useful in any traditional sense. He will be worthy, to himself and others, because he is fully human. The peculiarly Western, utilitarian view of man, that values the individual only to the extent that he is a productive contributor to society, will disappear.

As "work" loses its relevance to the human condition, leisure will gain in significance. But we will use our leisure quite differently, because its meaning will be different. Leisure activities—golf, bridge, TV, sailing, vacationing, and the like—will not be fulfilling enough in themselves, because they will no longer acquire their value simply as alternatives to work. But though there will be less need for traditional forms of work, there will be increasing opportunity and need for human activities and human service.

We will no longer be motivated chiefly by survival and security needs; we will be responding to a different level of human aspiration—to higher-order needs for self-actualization, for potency, for altruism and for a positive sense of wellbeing. We will search for modes of expression and interaction that enable us to exercise and enjoy our humanness. We will find self-esteem, not by doing what machines can do better, but by developing our uniquely human capacities for love, joy, creativity; by developing our emotional, interpersonal, and esthetic potential as well as our cognitive powers.

The implications for our system of education are immense. Let's face it—our values and concepts of education must be completely overhauled. The goal of education must become the development of human beings who will not wreck their lives and the lives of those around them. I see forces in motion that encourage me to believe that we will create an educational enterprise that will do just that. Let me give a few examples of the kinds of changes that I believe will surely take place.

1. *Education will be valued as experience, not only as preparation.* For the past hundred years or so, our educational system has been designed, almost entirely, to "prepare" young people for work. It has been a means to an end, that of training the next generation to become useful members of society. The goal throughout is "preparation"; one course prepares the student for the next; one school prepares him for the next; one diploma prepares him for the next. Having absorbed the amount of education of which he is intellectually and financially capable, the student martriculates into the real world.

In the future, learning will not serve only as preparation; it will be designed to be a richly rewarding human experience in and of itself. We will not evaluate it by asking, "Does it work?" any more than we ask that question of a symphony or a sunset. Listening to music or enjoying a sunset does not prepare us for anything; we value the experience in the moment, because we are enriched as human beings. Increasingly, this will be what education sets out to do.

2. *Education will be life-long.* It follows that education will be a life-long pursuit. If we can think of the learning environment as one which creates conditions to promote the healthiest responses of the human organism, we can see that these learning experiences must begin even before birth. Studies have shown that conditions in the family, treatment given the mother and unborn infant during gestation, can importantly affect the learning capacity of the child. Thus, in the future, education will be so integral a part of life that one will not know when it has begun and when it ends—for in fact it will not end. People will increasingly demand the right to study and learn because it will be a source of great satisfaction. Indeed, in the rapidly-changing world of the future, in which facts erode quickly, in which people will change careers several times in a life-time, we can see that educational needs will be great at all ages. Even today the graduate engineer of our leading technical schools discovers that 5 years after graduation half of what he needs to know was not taught when he was in school, and half of what he learned is now obsolete. Facts erode

not only in science and engineering, but in all phases of learning, even in history, literature, philosophy.

3. *Education will be fun.* I was tempted to place this first, because this concept may be the most difficult to accept. It certainly presents the most radical change in our approach to education. We appear to believe that students must be driven to learn by discipline, punishment, competition, and reward. We have for so long used averse methods in our teaching, viewing pain and suffering as an avenue to learning, that it may be impossible for us to accept the idea that learning can be entirely enjoyable, that it should not entail frustration or boredom, punishment or failure, dread, shame or panic.

It is now both theoretically and practically possible to arrange learning situations which are stimulating, joyful, deeply involving to the learner, and which evoke the best in him. It is possible to construct a learning environment in which the experience of learning is, in itself, a reward sufficient to produce far greater changes than those brought about by traditional methods.

4. *Education will include non-cognitive dimensions.* Our present educational system is focused almost entirely on cognitive learning, on the ability to store and give forth facts, on intellectual development. In the future, education will be directed toward other dimensions of humanness as well. There will be emphasis on esthetic, sensory, and emotional development, on achieving satisfying interpersonal relationships, heightened *awareness* in all these dimensions.

Before long it will be obvious to all of us that people very much need to develop their competence in family roles, in interpersonal relations, and that their educational experience should be designed to help them do so. It will also be obvious that people's senses must be awakened so they can perceive the world more richly and accurately. It will be obvious, too, that people must become better acquainted with their feelings and emotions—the affective side of life—so that feelings are friends and not enemies, so that people do not become alienated from themselves and others, so that they are able to recognize and deal with feelings of love and hate, needs for intimacy and needs for power. Already experiments in this kind of education are under way, and each holds promise for the creation of learning environments very different from those that prevail today.

5. *Education will be, in part, student designed.* If education is to be a life-long and joyful experience, if it is to enable each individual to develop his potential, to deal with his problems, he must have an important voice in determining what his own education experience should be. This is based on the assumption that to a great extent each student of whatever age knows what he needs to learn and, what is more, knows something about how to learn it. We will find educators increasingly sharing with students the responsibility and the resources for the planning of educational experiences. It is inevitable that as human beings move toward realizing their higher potential, we will find they are increasingly insistent on self-determination in all their activities.

6. *Education will be directed toward constellations of people.* At present we think of learning as an individual matter and we have developed an educational system that is, in spite of large classes, designed with the individual as the target. In the future we will

recognize, as we are beginning to discover today, that learning is best facilitated when people learn together in meaningful groupings, and that by living and working together the learning that takes place is mutually reinforced. We are finding, in treating the mentally ill, that we best succeed if we deal with the disturbed person as part of a constellation, i.e., his family, and that the therapy must be directed to the family unit, not only to the individual. Many other examples of this approach could be cited—team-training in industry, with astronauts in the space program, etc. We will find that the best way to educate the individual is to direct our efforts to the constellation most important to him—his family, his group, his work team, his organization.

7. *The "teacher" will become the "facilitator."* Reorganizing the social system of the school will greatly change the role of the teacher. Teachers and students will be partners in the learning enterprise, abandoning the "we-they" concept of education. While the more mature will no doubt guide the less mature, the gulf between teacher and student will be bridged and students and teachers will discuss and explore their subject matter in a variety of informal settings.

The role of the teacher will change from that of evaluator, disciplinarian, content-specialist, record-keeper, occupied with a hundred and one physical details, to that of a facilitator, a companion in learning. Children will look to their teachers as mature adults whose support and understanding are immensely important in motivating them to push ahead on the path of discovery. To older students, the mature adult sets an example as a model-learner, helpful, sensitive, and interested in the development of the student, but excited, too, by his own growth in the learning community.

8. *Education will not be restricted to classrooms and courses.* We are approaching an age in which the total environment will be used as a resource for learning. Real learning, today, takes place largely outside the classroom; in the future, all the resources of the community will be used for experimental learning. Freed of the lockstep of classroom rote-learning, students of all ages will use their world as a springboard for quest and discovery and they will enjoy exploring it for answers. They will use many modalities of learning, now the province of research—such techniques as games and simulations, systems-analysis, and the like, as involvement with contemporary problems becomes an essential part of the educational process.

While public and private educational systems will continue to grow, so will the educational activities of other basic institutions, notably business and religious organizations, as well as a variety of community organizations. Already the education budget of one major American company is larger than the entire budget of Harvard University.

In summary, then, education in 1984 will differ greatly from education as we practice it today, in duration, methods, location, concepts and goals. But we must begin, now, to initiate the changes that are needed if we are to create an educational system which will be relevant and challenging to my son, Jeremy, and his contemporaries.

II. BARRIERS TO CHANGE

I am aware that there are many political and economic barriers to educational change. But equally as important are the psychological barriers which are not so easy to recognize. Fortunately, psychological barriers sometimes topple when we do nothing more than point a finger at them. I would like to devote the second part of this paper to examining some of these barriers.

1. *The Protestant ethic.* The notion that education can be exciting, fun, nonutilitarian, is a violation of the value-system most of us have grown up with. Deriving from the Protestant ethic, the system holds first, that work is good in and of itself, and second, that we not only must but *should* suffer and deny ourselves in order to achieve a higher state of being. The motto of our culture, for the past three hundred years, has been "Wait" for gratification; the motto of today's youth is "Now!" We ourselves, of the credit-card generation, only give lip-service to our motto, but it nevertheless shapes our vision of education.

2. *Desire to see our own experience repeated.* No matter how wretched our own experiences in school may have been, when we set about constructing a learning environment for our children, we want them to have what we had. After all, it's really all we know. We value the experiences that shaped us, and we hope that our children will be as we are, only better; we want them to undergo our own experiences, only more so.

Fundamental to this, I suppose, is our need to create conditions which are familiar to us. No matter how much we may dislike our situation, at least we know what it is; we know where we are. How often we try to change a strange situation so that it becomes familiar. We take a good deal of comfort in this. So, appalling as our schools may be from certain points of view, they are, at any rate, familiar; they are very similar to the schools we attended, and this familiarity, this continuity with the past, gives us a sense of stability that is very reassuring.

3. *Nontraditional subject matter is simply not intellectually challenging.* Traditionally, we have applied the term "education" only to those activities which seem to involve "thinking." We believe that education is a dignified and formal matter of transmitting information, of imparting facts, of stimulating the higher mental processes, and providing techniques for analyzing and solving intellectual puzzles. Educating the other dimensions of humanness—the awakening of the senses, the recognition of feelings and emotions, the development of esthetic sensitivity, questions of taste and judgment, and the vast area of human relations—seems to us to be "doing what comes naturally."

At present, the non-cognitive, non-verbal skills have no academic respectability. They seem imprecise, fuzzy, vague, even fearsome, and threatening. Moreover, intellectual skills are obviously useful; they can be fitted into a clearly delimited body of knowledge while the sensory and affective and interpersonal skills have not yet been formulated into a conceptual structure. Perhaps, too, we reject the notion of affective education because education in the past was the privilege of an elite, the private preserve of the intellectual. That this privileged area should be invaded by dimensions of life which the Protestant ethos has condemned as part of man's "lower nature" is a violation of tradition, and a threat to open Pandora's box.

4. *Fear of emotionality.* We are comfortable with the curriculum only when we are dealing with cognitive, intellectual materials. When problems in the areas of emotionality or interpersonal relations or sexuality rise to the surface, we flinch and take refuge in the dictum

that only the qualified professional is capable of dealing with the layers of humanness below the intellectual or rational. Old-fashioned psychiatry is largely responsible for the prevailing attitude that teachers are wisest if they avoid "tampering" with children's psyches. This nonsense has so frightened teachers that any engagement with the student as a person is virtually prohibited. In general, we treat each other either as if we were very fragile, so that any hurt or penetration of our defenses would lead to a crumbling of the entire person; or we regard each other as a tenuously contrived set of social roles which serves to cover the frightening reality—a vicious beast, or at best our "animal nature." Thus, any intervention that deals with emotionality might unleash the animal; and only God knows what we might do then.

There is no doubt that the new dimensions of education described in Part I of this paper will call upon teachers and students to encounter each other in their totality as human beings, with all of the problems and possibilities, the hopes and fears, angers and joys, that make up a person. To relate to each other in this way, we will have to learn to be less afraid of what people are really like when they are being themselves, and to recognize that life itself produces many hurts, but that people are not wisps of smoke, likely to blow away the moment anyone engages them at a feeling level.

5. *The fear of intimacy.* Throughout our entire society, there is wide-spread fear of a particular kind of intimacy—the intimacy of shared feelings. We dare not reveal ourselves; it is extremely rare to be able to let another human being know: "This is what it's like to be me, right now," or, "This is how I feel about you."

We have developed an elaborate set of social devices which allows us to put distance between us, which lubricates our relationships, and which gives us privacy in a crowded, complex, and overburdening society. But we also need moments of shared feeling to give us a sense of community, to remind us of our membership in the human race, to put us in touch with our own humanness. Even to use such terms as "intimate" or "loving" disturbs most people. Popular belief and much professional opinion hold that any social organization can stand only a small amount of intimacy, that the machinery will become clogged if people start being concerned with each other instead of tending to business.

But how, then, will we cope with an educational system which is bound to produce a great deal of interpersonal closeness, shared feelings, and mutuality? We see the young people of today creating such an atmosphere in their peer groups, in the Civil Rights and anti-war movements, among the "hippies" on campus—groups from which we as adults are totally excluded. We are angry and threatened. Allied with this is our fear of rapidly changing sex mores. We know that intimacy arouses feelings, and that some of these feelings are erotic. While we take pleasure in novels or films which arouse feelings of joy, sadness, sympathy, anger, pride, fear, we object to the same novels and films—and to most human interactions—if they arouse erotic or even sensual feelings in us. When we allow the affective and sensual aspects of human experience to enter the domain of education, the sexual aspects will enter as well. Understandably, this poses a great threat to any educational system.

6. *The myth that we desire creativity and innovation.* In education, perhaps more than anywhere else, "everyone talks about creativity but no one does anything about it." We talk as if it were very difficult to identify creativity in people, and even more difficult to liberate it. But actually it is just the other way around. The potential for creativity exists in almost everyone, and it is quite easy to liberate. The trouble is that we really do not want it. Or rather, we want it in manageable amounts—and most people, and certainly most organizations, can manage only a small amount of creativity and its offspring, innovation. Innovation by definition involves the new and different; it forces us to change our behaviors, our styles, our ways of going about things, our pictures of ourselves, our views, our traditions, and our values. Innovation rocks the boat; it brings disorder and confusion.

We want creativity and innovation—but only if it does not disrupt the classroom, the organization, the institution. So we get the kind of creativity that follows the rules, pleases teachers and parents, and is not noisy. Most of us certainly do not want creativity and innovation that change the rules, alter the social system, challenge our ideas, force us out of our comfortable ruts. Indeed, if one were to design an educational system for the express purpose of stifling creativity in students, it would differ very little from our present system. The situation fails also to stimulate creativity in teachers, for in education, imagination and boldness of outlook are not rewarded. Indeed, the organization usually manages to find ways of punishing anyone who brings about a variation in the routine. "That's not the way we do it here" is a common reproof; it has led to standardization of classroom behavior and the routinizing of almost all teaching functions. It might almost be said that the educational enterprise constitutes an elaborate system of constraints.

7. *Fear of appearing naively optimistic.* It sounds ridiculous to say that "optimism is a barrier to change," but it is true that optimists often seem foolish and pessimists seem smart. Optimists sound fuzzy, credulous, grandiose, and naive, while pessimists sound realistic, hard-headed, free of illusions, sophisticated. The trouble comes when we realize that educational changes such as those outlined in Part I are based on an optimistic view of the nature and future of man, an assumption that man is fundamentally a positive, constructive being who, if given a chance, can tap reliable resources for growth. But anyone who advocates such changes, or worse, tries to implement them, is such to be accused of woolly-minded naiveté. In any group discussion, regardless of the issues, the facts, or the group's goals, pessimists can almost always win out over optimists. Perhaps it is as simple as this: Optimists play on our fondest hopes, pessimists on our worst fears, and when they are competing, fears usually triumph over hopes.

8. *Resistance of extremists.* Extremists will find much to outrage them in ideas presented in this paper. Extremists on the left will ridicule the notion that educational changes of the sort I have discussed could possibly come about in the absence of a profound social and economic revolution: They will see in all this a naive optimism which blithely ignores the profound contradictions which are surely leading imperalist capitalism to disaster. And that, in fact, those of the changes that may come about, if our society survives that long, will do so only because they serve as a means to drown incipient

protest in soothing syrup—to turn education, instead of religion, into the optimum of the people.

Extremists from the right will see changes from a competitive to a cooperative system as socialistic, the decline of the hierarchical organization, with teacher as a respected authoritarian, and the emphasis on emotional and sensual learning as the agents, if not the results, of moral decay. They too, will see the assumptions that man is inherently trustworthy as naively optimistic. Extremists from both the right and the left will try to block whatever educational changes are proposed—those on the left because they do not go far enough, and do not sufficiently threaten existing institutions—those on the right because they go much too far and "seriously threaten what little soundness remains in existing institutions."

9. *Exhilaration of outrage.* Most of us secretly enjoy "viewing with alarm," and sharing our outrage, as the headlines worsen, with others whose outrage heightens our own. We *like* being mad at something or somebody and we like being joined in that anger by a group that shares our thinking. We seek out those who can tell us horror stories about administrative blunders, absurd educational policies, idiotic decisions, dangerous practices. We often polarize or exaggerate the situation in order to exercise our outrage. But, unfortunately, the expression of outrage is often sufficient. We do not really care whether or not the situation changes, because identifying the problem and venting our feelings about it are sufficient to satisfy our emotional needs. Indeed, we are often disappointed when the condition does improve, for we are then robbed of the chance to enjoy our outrage.

10. *Improvement results in discontent.* One of the great paradoxes of organizational change is that the consequences of improvement are higher expectations, discontent, and the demand for still greater improvements. An improved situation allows us to move from lower-order discontents to higher-order discontents. The higher we climb, the wider the vista before us. Our discontent arises from the discrepancy between what we have and what we see it might be possible to have. We would like people to be satisfied with improvements, but they cannot because the change itself has released dynamisms that put in motion the whole endless, difficult process of growth.

Indeed, the urgent need for educational change is itself an illustration of this problem: the enormous advances in technology, which have so radically improved the material aspects of our lives, demand that we change the methods and goals of education to meet our newer and higher needs—"second order" needs for self-actualization and creativity for developing our highest potential.

III. OVERCOMING THE BARRIERS

If we expect that the educational profession will design and initiate the coming changes in education, we are wrong. Every profession comes to be seen as responsible for solving a particular problem, but paradoxically, it is the concern with professionalism that renders it impotent as a problem-solving body. The members attend meetings, collect dues, elect officers, worry about internal politics, raise standards, jockey for recognition, invest in the status quo and in general lose sight of the fundamental reasons for the existence of the profession. For example, the medical profession has made very little contribution to solving world health problems; psychiatrists and psychologists have made almost no dent in the problems of mental illness; architects have not begun to deal with problems of world shelter. We cannot blame educators, therefore, for not having discovered how to change education.

In education, as in other fields, most innovation will be brought about by invasion from without, or rebellion from within. I would like to suggest some of the invasions and rebellions that will surmount the barriers to innovation.

1. *The new technology.* While I believe that the most exciting changes in education will be in concept rather than in technology, it is impossible to ignore the overwhelming technological revolution that is underway in the education industry. There can be little doubt that the practical developments in the physical, biological, and behavioral sciences will combine to alter the shape of education in as yet undiscernable ways. The impact of this technology will, without question, be monumental.

I say this with all due respect for the ability of the educational enterprise to resist technological invasions. The use of the magic lantern, motion pictures, and other audio-visual methods has had no effect on the social system of the classroom. This seems to be equally true of our first efforts to use teaching machines—but we must remember that this hardware is still in the "tin lizzy" stage. Its full impact has not yet been felt.

It is significant, I think that the greatest resistance to this new technology seems to come less from the parents than from the teachers. One would suppose that teachers would welcome the chance to be relieved of routine tasks that can be better accomplished by machines, but this does not seem to be the case. No matter how serious the shortage of personnel, no teacher is immune to the fear of being replaced by machines. Seldom do teachers see the machine as assisting them, and perhaps they are right in a way.

For although machines can relieve the teacher of burdensome detail, they will, without any doubt, enormously change the teacher's role vis-à-vis the students. And very likely this role will be far more complex and demanding. Teachers have chafed under the recordkeeping, fact telling, evaluation-oriented tasks of present day schools, but I suspect that they would have mixed feelings about encountering their students in a real person-to-person relationship, without the buffer of these special tasks and roles.

2. *The growth of the human service industries.* In the past few years literally scores of major American businesses have moved into the great new "people" industries—health, education, welfare, recreation, and entertainment. This shift from producing goods to providing human services is significant for both public and private educational systems. For it is these systems that will have to furnish the manpower for the people industry. The schools will have to educate for new qualities—they will have to produce people who are suited for human service. In a sense, the task will be as different, in terms of preparation, as the task of supplying graduates to the automobile industry, say, is different from that of preparing people for the Peace Corps.

The human service industries are already big business; well over 100 American firms are producing educational materials. We can be sure that they, and many more organizations, will search out, invent, produce, and sell far more sophisticated, appealing, and effective devices for teaching than we can imagine. It's perfectly clear that this will transform education, whether we like it or not.

3. *The advent of systems engineering.* The most popular new word in education—as well as in practically every other field—is "systems." In the same way that "leadership," "motivation," "communication," have all enjoyed immense popularity as terms to toss into conversation, "systems" is our current byword. Its wide and often inappropriate usage may actually obscure the subtle revolution that is taking place through the application of systems analysis to educational systems.

At its higher levels, systems engineering calls itself "operations research"; it uses complex mathematical formulas and models that enable computer scientists to assist organizations in planning more effective ways of scheduling their activities. The use of operations research and systems engineering enables a complex piece of machinery, such as an orbiting satellite, to be produced in the least time, and to meet an enormously complex and multitudinous set of specifications.

But in its simplest terms, systems analysis merely involves looking at the big picture and applying a common sense analysis to what one sees. A systems analyst tries to understand the workings of an organization and to establish performance criteria with respect to the goals of the organization. To understand the operation of an educational system, one would not only need to assess the physical facilities, but to analyze the activities and goals of students, teachers, administrators, parents, school board members as well as those of all the systems that articulate with the educational system, to see what bearing they have on the operation of the school.

The application of systems analysis is aided by several phenomena that would be of help in almost any situation of organizational change. First, it is relatively easier to make big changes than to make small ones—and systems changes are almost always big ones. Because they are big, it is difficult for people to mount resistance to them, for they go beyond the ordinary decision-making, policy-setting activities of individual members of an organization. It is far easier to muster argument against a $100 expenditure for partitions, than against a complete reorganization of the work flow. Second, it forces the clarifying of goals and the setting of performance criteria—something most organizations never do adequately. Third, it studies what people really do and really need, and it provides a system by which people are confronted with rapid feedback on the effects of their actions. Fourth, almost any well-intended disruption of a given system seems to produce a reintegration of the system—but at a somewhat higher level. Apparently there are reliable forces toward growth and integration in any organization.

To my way of thinking, the great unmet challenge of systems technology is the need to develop self-determining, self-renewing systems, in which the people who are the components of the systems are actually the people who *design* the system. Systems analysis is still the preserve of an elite group; they see their task as that of engineering change for others and not as that of devising means by which people can design their own situations.

4. *The influence of Federal programs.* The Federal Government is currently pouring millions of dollars into education in the hope of bringing about change. No doubt some of the programs as instituted will, in fact, do just that. But even more important perhaps are the federally-sponsored programs that are not specifically directed to education, but instead parallel it. "Great Society" programs, from Head Start to VISTA to Job Corps, are all engaged in activities that affect the future of education. They are not only offering new models of education, but they are creating new expectations, new ideas of what might be—perhaps should be—achieved in education. Most importantly, these programs are illuminating the problems of educating the disadvantaged, showing that they are disadvantaged only in certain dimensions, and not at all in others; it is beginning to be evident that our present educational format simply does not tap their capabilities and resources.

The power of these Federal programs does not lie only in the vast amounts of money being spent their power lies in their flexibility, their responsiveness; each is constituted to solve a particular problem, and each can be quickly evaluated in terms of its solution of that problem. So fluid a system can experiment far more readily with educational practices than can the typical educational system, and it is therefore far less encumbered by tradition.

5. *The new social technology.* The new technology does not consist solely of computers and operations research. Part of it, perhaps the most important part, in the long run, is the result of behavioral sciences knowledge that allows us to use social processes in changing a social system so that it becomes more free, flexible, responsive to the needs and goals of all its members. I would like to cite two examples of the way social processes are currently being used to bring about such changes.

First, there is the intensive small group experience. After a rather slow start (we have known about these group processes for at least 20 years) the intensive small group experience is spreading like wildfire through all the basic institutions in our society—schools, churches, industries, community organizations—as a means of promoting personal growth and organizational effectiveness. Underlying the use of the intensive group experience is the idea that when people can make use of their own small group as a laboratory for looking at the processes of interpersonal relationships, they will move predictably toward more openness and honesty, toward more group cohesion and loyalty, toward more involvement and affection for each other, and hence toward a higher level of trust and a deeper level of communication. When the members of a group have been able to change its interpersonal relations in these directions, through the intensive group experience, they will be able to work more effectively together, not only for the betterment of the individual, but for the betterment of the organization, since they will no longer be victimized in their planning and decision-making by hidden agendas, defeating inter-personal games and contracts, and a general atmosphere of low trust.

Under various labels—group dynamics, T-group, sensitivity training, encounter group, etc.—the intensive group experience offers a powerful format for self-directed change. I believe that these groups will increasingly be used by entire school systems to promote the kind of trust that enables all its members to engage in cooperative planning for educational innovation.

Secondly, there are simulation exercises or "educational games." These methods have received a great deal of attention recently, not so much because they are a better way of teaching subject matter—they may not be—but because they help to change the learning climate of the classroom by altering the social structure. The teacher who uses simulations as a way of providing experiential learning for himself and his students is freed from the traditional role of evaluator, content specialist, disciplinarian, record keeper, because the rules of the games require that the students themselves perform these functions. The teacher is thus released from these routine chores to deal with the deeper and more interesting individual problems that arise both during and after the simulation exercises. As a helpful associate in learning, the teacher can then serve to reinforce and enlarge upon insights gained from the experience.

Educational games are now being used to teach international relations, national politics, community leadership, business decision making, home management, career planning, etc., but there is really no limit to the subjects that might be taught with these techniques. One can develop a game to illuminate almost anything one can talk about.

6. *Students as a resource.* It may be true, again paradoxically, that the greatest resource for the solution of any problem, involving people, is the problem population itself. This appears to be true, certainly, in social problems such as addiction, mental health, delinquency, poverty, and above all in education, where studies of the upper grades have shown repeatedly that students learn more from each other than from teachers, more outside class than inside. Students can be very good for each other, but somehow we have blinded ourselves to this fact and as a result we are neglecting our most potent resource for change. Students should have a voice in the decisions which affect them, and judging from current trends, it appears that they will.

The young people who are part of the civil rights movement, the student revolutions, the New Left, the psychedelic or "hippie" culture, are joining forces to bring about a kind of society which we adults can only dimly perceive, and which in many ways deeply threatens us. Operating essentially without traditional rules or structures, a significant portion of today's youth is calling for a new set of values which can only be said to reflect high-order motivation. Unlike other rebellions in history, the current rebellion of the youth is not based upon hunger, oppression, brutality, but is a protest against conditions in the adult world which appall the youngsters—violence, deception, superficiality, pretense, loneliness, conformity, meaninglessness, prejudice, injustice, aggression and war. Today's young people demand a new Bill of Rights: The right to be honest, to hear the truth from others, and to respond in the immediacy of the moment with a unique and personal reaction; to be autonomous, and to have a hand in the design of their own educational and life experiences; to engage in intensive modes of self-discovery, and to live in the "here and now." If and when the "movement" clashes with the "establishment," we may see major shifts in our educational practices. This is most apparent now in our colleges, where student protests are headline news, and where a number of exciting experiments in student-determined education are taking place. But the seeds of this revolt are growing in the high schools and some say even in the elementary schools. Students of all ages are more and more actively demanding an education that is relevant to the world they see around them, and one that will enable them to cope with the world in which their future lies. Students are future-oriented and will no doubt be more so. And this orientation will not permit the educational system to be as anachronistic as it now is.

IV. Conclusion

There is so much I want to say; there are so many points that I wish I could be sure were made—that students suffer needlessly through endless days of boredom and frustration, that teachers do not teach, students *learn;* that we must trust students, not just diagnose them; that we must start where the *students* are, not where *we* are; that change and its accompanying discontent will be a way of life; that schools are, by and large, out of touch with the present, let alone the future; that we need radical shifts in our thinking if we are to rescue the schools from the sorry condition they are now in; that the major obstacles to improvement are now our own resistances to change; that there are encouraging signs that education can be infinitely better than it is.

I want to convince those who can make a difference in education that my Jeremy deserves something else, something more. Perhaps I can do no better than to quote from a friend of mine, Lyn Tornabene, a writer who has recently accomplished a most remarkable feat—she "passed" as a teenager. At age 34, just because she thought it would be fun and make an interesting story, she entered high school as a junior—and she got away with it. No one, from the Dean of Women to the school doctor, noticed. It is an interesting story, but it was not fun. In her book* she concludes by contrasting her feelings as an adult with the impotency she felt as a 16-and-a-half year old:

> That's what I am that they are not. I am potent. I can make myself felt. I can hold up my hand and say "Wait a minute!" I can say "No, I won't" and "Yes, I can." I can say "This is me. See me. I am a person. These are my limitations. These are my potentialities. You may not like me, but that doesn't mean I have to change." I don't have to submit. I don't have to repress. I can pack and go. Or, better yet, I can suggest that you pack and go.
>
> . . . I have seen their special world, and let me tell you I am not worried about whether today's teenagers are familiar with a dozen intimate positions. I am worried about the kinds of teachers they are exposed to, the kind of environment they go into when they leave home in the morning.
>
> I didn't go to Urban High looking for this worry. I didn't go to a high school to learn about high schools. I went to high school because that's where the kids were. I didn't want to get involved in problems of education. That's for Admiral Rickover. I didn't want to let myself think when I got in the middle of the cafeteria mayhem or heard a political lecture in English class. But I got involved, and now I can't forget the anger and exhaustion I felt at the end of each of my days.
>
> . . . Stop Threatening Me! That's what I wanted to shout in my classrooms. If you don't cover your book by Wednesday . . . if you don't have your homework written on lined paper . . . if you don't bring your dollar for Student Government . . . if you don't keep quiet . . . if you don't stop . . . if you don't start . . . you'll be punished.
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> Good God, there must be some other way.

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*Tornabene, Lyn. *I Passed as a Teenager*. Simon and Schuster, New York, 1967.

VARIATIONS ON A THEME: BRITISH AND STOREFRONT SCHOOLS*

Joseph Featherstone, Associate Editor, The New Republic, Washington, D.C.

I. Schools for Children

PREFACE

To these lengthy reports, I'd like to add some points that may be of special interest to teachers and administrators:

1. Although I don't wish to present the methods described in these reports simply as a better way to learn the 3 R's, I do want to note that there are very few reading problems in the good British schools; and heads of schools predict that the few remaining problems will disappear when the informal methods of the infant schools are extended for another year.

2. British teachers, like teachers everywhere, pray for small classes, but informal methods work well in classes of 40 children. It would clearly be better for the teachers if numbers were smaller, yet the methods do succeed, and some teachers I spoke with argued that they make it easier to teach large classes.

3. Tracking, as my third report suggests, is not necessary in primary schools where the emphasis is on individual learning. English teachers are coming to see workable alternatives to ability grouping.

4. Informal methods work well not only with young children in the first years of school—the main focus of these three reports—but with older children, too. There are problems: the junior schools are slower to change, partly because they stand closer to the rigid secondary schools, and partly because it takes time and much experimenting to develop the kind of rich background of materials and methods the infant schools now possess. British curriculum projects are creating good open-ended materials, especially in science and math, to meet the more complex needs of older children, but the material is designed for individual learning. Whatever the difficulties, it is clear that the junior schools are at their best when they continue along the freer lines of good infant schools.

5. Since nothing in schools happens in isolation, patterns of individual learning can develop in one area of the curriculum and spread to others. Thus for some British schools, art was the first subject in which children were encouraged to work on their own with real paint (not water colors) and huge pieces of paper; others experimented with individual "movement" and mime and interpretive dancing in their PE classes; some introduced the musical instruments devised for children by the German composer, Carl Orff; and, as my second report points out, many schools are now discovering that mathematics is a great catalyst for change.

6. Everything depends on the teacher's confidence that children can learn with these methods. Where teachers and children are used to a strict timetable and traditional classroom instruction, it is best

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*This series of articles appeared in *The New Republic* Aug. 10, Sept. 2, and Sept. 9, 1967.

to proceed gradually: successful small steps are the only way to gain confidence. Wise heads of schools making the transition from formal to informal methods often start with a pair of willing teachers—with the idea that two people encourage each other, help create materials, and cheer one another up when things go badly. Many teachers begin by allowing the children one free period in the day, when free writing, painting, and working with mathematical apparatus are encouraged. As the children get used to working on their own, the teachers gradually extend the free period, and start altering the layout of the classrooms. In schools, where math is the focus for change, a teacher will introduce a free math period—usually Friday afternoon—in which different kinds of mathematical apparatus and homemade materials are set up for the children to tinker with. After some of these free math periods, teachers often find the children becoming interested in recording the results of their activities in pictures, charts, graphs, and essays—this last introducing "English" in the form of free writing on mathematics.

Teachers may decide that one period is not enough for the children, and so they extend the time to let them pursue a piece of work to the end. Teachers can wean themselves and the children from textbooks in a variety of ways: one is to start using the textbook selectively, as problems arise in the classroom from the children's tinkering. Thus if a child playing with liquids and containers raises a question about volume, the teacher can direct him to a relevant section in a standard arithmetic book. Another bridge between conventional instruction and a much freer approach is provided by assignment cards, hand-printed cards with questions and suggested activities on them. In a class of smaller children, the assignment card will ask: "how many acorns balance the pebble?" The children work through the cards on their own, consulting with the teacher. Cards are grouped around separate mathematical topics: speed, weights and measures, volume, and so on. The first two cards may be very elementary, and the rest provide a variety of activities to perform in connection with the topic. After a certain amount of repetition, the cards, and more important, the teacher, push the child towards framing general statements about what he has learned, what patterns he can see in the activities he has just finished. Obviously, assignment cards are only a means to make the transition to informal learning easier; used wrongly, they can become as tiresome as any textbook. Successful teachers, learning as they go, introduce them to the class, work with them enough to give the children a taste for a wide range of activities, and then slowly abandon them as more and more mathematical work is generated by the students' own efforts.

7. It would be a mistake to try to copy the techniques of a British classroom without understanding the spirit behind the techniques: if it is desirable to let children choose their activities within the selected environment of the classroom, teachers have to be given choices as well. Within the British schools now making the change from formal to informal methods, you often find teachers, some of them very talented, who don't approve of the new methods. On the whole, their preferences are respected, and this, in itself, is an important key to the character of the primary school revolution. The kinds of classrooms described in these reports will come slowly to American schools,

if they come at all; and they will come only when teachers believe in them.

A. WHAT'S HAPPENING IN BRITISH CLASSROOMS

My wife and I have just spent a month in England visiting classes in primary schools, talking to children and teachers. Friends told us about good things happening in British classrooms, but we were scarcely prepared for what we found; in recent decades there has been a profound and sweeping revolution in English primary education, involving new ways of thinking about how young children learn classroom organization, the curriculum and the role of the teacher. We saw schools in some good local educational authorities: Bristol, Nottingham, Leicestershire, Oxfordshire and a few serving immigrant areas in cities like London.

In the first part of what follows, I'm going to be as specific as I can about how classes work in a good English school, how the room is laid out, what sort of things are in it, how the teacher and the children spend the day and, in some detail, how a child learns to read, as an example of the kind of learning that goes on. I know that teachers in this country, particularly good ones, are rightly suspicious of most talk on education, because so little of what they hear ever relates to actual classroom practice. I hope I can be specific enough. The relevance of these classrooms to us is another, more difficult question which I'll leave for later. I don't have any easy answers.

Primary schools divide into "infant" and "junior" schools. Much of this report will focus on the infant schools, which take children from the age of five to seven, and in some authorities eight. (As in Israel, children begin compulsory schooling at the early age of five in England.) It is in the infant schools that people learn to read and write and to work with numbers. Junior schools take children from seven or eight to 11, when they go on to secondary school. Infant and junior schools sometimes occupy the same building, and some authorities—Oxfordshire, for example—have a policy of putting them together in one unit, like an American elementary school.

It is important to understand that what goes on in the good infant schools is much the same. The approach is similar, though the quality of teaching and children's work varies greatly.

Westfield Infant School is a one-story structure, like any of a thousand American buildings, on a working-class housing estate in Leicestershire. If you arrive early, you find a number of children already inside, reading, writing, painting, playing music, tending to pets. Teachers sift in slowly, and begin working with students. Apart from a religious assembly (required by English law) it's hard to say just when school actually begins, because there is very little organized activity for a whole class to do together. The puzzled visitor sees some small group work in mathematics ("maths") or reading, but mostly children are on their own, moving about and talking quite freely. The teacher sometimes sits at her desk, and the children flock to her for consultations, but more often she moves about the room, advising on projects, listening to children read, asking questions, giving words, talking, sometimes prodding.

The hallways, which are about the size of those in our schools, are filled with busy children, displays of paintings and graphs, a play grocery store where children use play money and learn to count, easels, tables for collections of shells and plants, workbenches on which to pound and hammer nails and boards, big wooden boxes full of building blocks.

Classrooms open out onto the playground, which is also much in use. A contingent of children is kneeling on the grass, clocking the speed of a tortoise, which they want to graph against the speeds of other pets and people. Nearby are five-year-olds, finishing an intricate, tall tower of blocks, triumphantly counting as they add the last one, "23, 24." A solitary boy is mixing powders for paint; on a large piece of paper attached to an easel, with very big strokes, he makes an ominous stylized building that seems largely to consist of black shutters framing deep red windows. "It's the hospital where my brother is," he explains, and pulls the visitor over to the class-library corner, where a picture book discusses hospitals. He can't read it yet (he's five), but says he is trying. And he is; he can make out a number of words, some pretty hard, on different pages, and it is clear that he has been *studying* the book, because he wants badly to know about hospitals. At another end of the hall there is a quieter library nook for the whole school. Here two small boys are reading aloud; the better reader is, with indifferent grace, correcting the grateful slower boy as he stumbles over words.

The rooms are fairly noisy—more noisy than many American teachers or principals would allow—because children can talk freely. Sometimes the teacher has to ask for quiet. With as many as 40 in some classes, rooms are crowded and accidents happen. Paint spills, a tub overflows, there are recriminations. Usually the children mop up and work resumes.

The visitor is dazed by the amount and variety and fluency of the free writing produced: stories, free-verse poems, with intricate images, precise accounts of experiments in "maths" and, finally, looking over a tiny little girl's shoulder, he finds: "Today we had visitors from America. . . ."

After a time, you overcome your confusion at the sheer variety of it all, and you begin making more definite observations. The physical layout of the classrooms is markedly different from ours. American teachers are coming to appreciate the importance of a flexible room, but even in good elementary schools this usually means having movable, rather than fixed, desks. In these classes there are no individual desks, and no assigned places. Around the room (which is about the size of one of ours) there are different tables for different kinds of activities: art, water and sand play, number work. (The number tables have all kinds of number lines—strips of paper with numbers marked on them in sequence on which children learn to count and reason mathematically—beads, buttons, and odd things to count; weights and balances; dry and liquid measures; and a rich variety of apparatus for learning basic mathematical concepts, some of it homemade, some ready-made. The best of the commercial materials were familiar: Cuisenaire rods, the Dienes multibase material, Stern rods and attribute or logical blocks. This sort of thing is stressed much more than formal arithmetic.)

Wendy and Puppets

Every class has a library alcove, which is separated off by a room divider that also serves as a display shelf for books. Some library corners have a patch of carpet and an old easy chair. Every room has a "Wendy House," a play corner with dolls and furniture for playing house. Often there is a dress-up corner, too, with different kinds of cast-off adult clothes. The small children love the Wendy houses and dress-up corners, but you see older ones using them as well. Some classes have puppet theatres for putting on improvised plays with homemade puppets—although many make do with the legs of one table turned upside down on top of another for a makeshift stage. Often, small children perform dance dramas involving a lot of motion and a minimum of words.

Gradually it becomes clear how the day proceeds in one of these rooms. In many infant and some junior schools the choice of the day's routine is left completely up to the teacher, and the teacher, in turn, leaves options open to the children. Classes for young children, the visitor learns, are reaching a point in many schools where there is no real difference between one subject in the curriculum and another, or even between work and play. A school day run on these lines is called, variously, the "free day," the "integrated curriculum," or the "integrated day." The term scarcely matters.

In a school that operates with a free day, the teacher usually starts in the morning by listing the different activities available. A lot of rich material is needed, according to the teachers, but the best stuff is often homemade; and, in any case, it isn't necessary to have 30 or 40 sets of everything, because most activities are for a limited number of people. "Six children can play in the Wendy House," says a sign in one classroom. The ground rules are that they must clean up when they finish, and they mustn't bother others.

A child might spend the day on his first choice, or he might not. Many teachers confess they get nervous if everybody doesn't do some reading and writing every day; others are committed in principle to letting children choose freely. In practice, a lot of teachers give work when they think it's needed. In this, as in any other way of doing things, teachers tailor their styles to their own temperament and the kind of children they have. But the extent to which children really have a choice and really work purposefully is astonishing.

How they learn reading offers a clear example of the kind of individual learning and teaching going on in these classrooms, even in quite large ones. (The mathematics work shows this even better, but I'll talk of math in another context.) Reading is not particularly emphasized, and my purpose in singling it out is purely illustrative, though the contrast between English classes and most American ones, where reading is a formidable matter, is vivid and depressing.

At first it is hard to say how they do learn reading, since there are no separate subjects. A part of the answer slowly becomes clear, and it surprises American visitors used to thinking of the teacher as the generating force of education: children learn from each other. They hang around the library corners long before they can read, handling the books, looking at pictures, trying to find words they do know, listening and watching as the teacher hears other children's reading. It is common to see nonreaders studying people as they read, and then imitating them, monkey doing what monkey sees. Nobody makes fun of their grave parodies, and for good reasons.

A very small number of schools in two or three authorities have adopted what they call "family," or "vertical," grouping, which further promotes the idea of children teaching children. In these schools, each class is a cross-section of the whole school's population, all ages mixed together. This seems particularly successful in the early school years, when newcomers are easily absorbed, and older children help teach the young ones to clean up and take first steps in reading. Family grouping needs smaller classes, teachers say, because it requires close supervision to make sure small children don't get overshadowed and big ones are still challenged. Teachers using it swear by the flexibility it provides.

Books in Profusion

Teachers use a range of reading schemes, sight reading, phonics, and so forth, whatever seems to work with a child. (Only about five percent of English schools use the Initial Teaching Alphabet, an improved alphabet, not a method of reading, that has proved successful with poor readers and adults both in England and in this country; heads of good schools we visited thought that ITA was unnecessary with a truly flexible reading program, but that in a rigid scheme, it gave the slow reader another chance, and thus a break.) Increasingly in the good infant schools, there are no textbooks and no class readers. There are just books, in profusion. Instead of spending their scanty book money on 40 sets of everything, wise schools have purchased different sets of reading series, as well as a great many single books, at all levels of difficulty. Teachers arrange their classroom libraries so they can direct students of different abilities to appropriate books, but in most classes a child can tackle anything he wants. As a check, cautious teachers ask them to go on their own through a graded reading series—which one doesn't matter.

However a child picks up reading, it will involve learning to write at the same time, and some write before they can read; there is an attempt to break down the mental barrier between the spoken, the written and the printed word. When a child starts school, he gets a large, unlined notebook; this is his book for free writing, and he can put what he wants in it. On his own, he may draw a picture in it with crayon or pencil, discuss the picture with the teacher, and dictate a caption to her, which she then writes down for him: "This is my Dad." He copies the caption, writing just underneath. In this way he learns to memorize the look and sound of his dictated words and phrases, until he reaches a point where, with help, he can write sentences. Often his notebook serves as his own first reading book.

He also gets a smaller notebook, his private dictionary, in which he enters words as he learns them. "I got a new word," a five-year-old brags to the visitor. Children are always running to the teacher for words, as they find they have more and more to write. Good teachers don't give in without a struggle; the children have to guess the first letter and sound the word out before they get it. Thus they pick up phonetic skills informally, although some teachers do use sight cards at the outset with their children. Gradually as a child amasses a reading and writing vocabulary, he reaches a fluent stage and you see six-year-olds writing stories, free-verse poems, accounts of things done in class, for an audience that includes other children as well as for the teacher.

As a rule, teachers don't pay much attention to accuracy or neatness until a child is well on in his writing. They introduce grammar and spelling after a time, but not as separate subjects or ends in themselves: they are simply ways to say what you want better and more efficiently. Under these methods, where the children choose the content of their writing, these seems in fact to be more attention paid to content than externals, such as punctuation, spelling, and grammar. In the good schools, these are presented as what they are, living ways to get a meaning across, to be understood. Even some unimaginative teachers, who quibble with children about other work, can respect the content of the free writing books and take it seriously. This emphasis on self-chosen content has produced a flowering of young children's literature in schools working with many kinds of teachers and children. There is growing recognition that different people flourish on different kinds of writing; storytellers and poets are not necessarily the same as those who can do elegant and graceful writing about mathematics. Impressive examples of free writing and poetry similar to what we saw are contained in the West Riding Education Committee's anthology, *The Excitement of Writing*. Samples of "maths" writing are included in the Schools Council's *Mathematics in the Primary Schools*, a wonderfully instructive book on many accounts. Books made and illustrated by the children are coming to be a regular part of the curriculum in some schools.

I've focused on reading, although of course children spend their time doing other things, and the teachers in the schools we saw would be annoyed at the manner in which I've singled out one academic subject. The very best often argued that art was the key. Miss Nash, the head of Sea Mills School in Bristol, said firmly that if the art is good, all else follows. All else does follow, richly, at Sea Mills, where the infants sat us down and performed a concert of skillful poetry and songs they made up on musical instruments.

But my purpose was to show not reading, but the changed role of the classroom teacher. Formal classroom teaching—the instructor standing up front, talking to the group, or even the first-grade room divided up into reading groups which the teacher listens to separately as she tries desperately to keep order—has disappeared from many infant and a number of junior schools. It has disappeared because it is inflexible, because it imposes a single pattern of learning on a whole group of children—thus forcing the schools to "track," or to group classes by ability—because it ignores the extent to which children teach each other, and because in many workaday schools other methods are working better. Ordinary teachers, trained formally, take to the new role when they can see with their own eyes that the result is not chaos.

Informality Is Hard Work

These methods mean more work for the teacher, not less. In informal conditions, it is essential for the teacher to keep detailed and accurate accounts of what a child is learning, even though at any given moment she might not know what he's up to. Children help by keeping their own records: in some schools, they have private shelves where they store writing books, accounts of experiments and work in "maths," lists of the books they've read, and dates when they checked in with the teacher to read aloud. If American parents could ever see some of the detailed histories kept of each child's separate path, including his art work, they would feel, quite rightly, that a report card is a swindle.

When the class seldom meets as a unit, when children work independently, discipline is less of a problem. It does not disappear as a problem, but it becomes less paramount. The purposeful self-discipline of these children is, we were told, just as surprising to middle-aged Englishmen as it is to Americans. It is a recent development, and by no means the product of luck: much hard work and thought go into the arrangement of these classrooms and their rich materials. When they work at it, teachers find they can make time during the day for children who need it. "I can give all my attention to a child for five minutes, and that's worth more to him than being part of a sea of faces all day," said a teacher in an East London school overlooking the docks. Other teachers say they can watch children as they work and ask them questions; there is a better chance of finding out what children really understand.

What we saw is no statistical sample. The practices of the good schools we visited in different kinds of communities are not universal; but there are reasons for thinking that they are no longer strikingly exceptional. The schools we saw are, for the most part, staffed by ordinary teachers; they are not isolated experiments, run by cranks and geniuses. A government advisory body—the Plowden Committee—published a massive, and to American eyes, a radical report early this year, in which it indicated that about a third of England's 23,000 primary schools have been deeply influenced by the new ideas and methods, that another third are stirring under their impact, and that the remaining third are still teaching along the formal lines of British schools in the thirties, and of American schools now.

The change is most widespread and impressive in the infant schools, and becomes more scattered on the junior level. Junior schools in some authorities are playing stunning variations on the free themes developed by the infant schools; but, in general, change in the junior schools is slower, more diffident, and faces more problems.

Many formal schools—English and American—are probably doing a more effective job, in conventional terms, than many of these schools. It doesn't do to dogmatize. For example, by and large, in terms of measurable achievement on conventional tests, children in traditional, formal classes in England do slightly better than children from the freer classes. (The survey is submitted by the Plowden Report.) The difference is greatest in mechanical arithmetic, and least in reading. These are facts, but there are reasons for discounting them, apart from evidence that the differences disappear in later school years. Formal schools teach children to take conventional tests; that is their function, and it would be surprising if all their efforts didn't produce some results. In view of the lack of test training in the freer schools, the students' results seem to me surprisingly high. It is perfectly clear that the mathematics taught in the informal schools—mathematical relationships in which process of thought counts for more than arithmetical skill—and the English—free writing, rather than grammar and so on—put their students at a disadvantage on achievement tests, whose authors would probably be the first to admit this. England and America badly need new kinds of tests. My own very strong impression is that in areas easy to define and probably not hard to test—ability to write, for example, or understanding of the math they were doing—the children in the good schools I saw, including slum schools, were far ahead of students in good schools in this country.

The external motions teachers go through in the schools matter less than what the teachers are and what they think. An organizational change—the free day, for example, or simply rearranging classroom space—is unlikely to make much difference unless teachers really believe that in a rich environment young children can learn a great deal by themselves and that most often their own choices reflect their needs. But when you see schools where teachers do believe in them, it is easy to share the Plowden Report's enthusiasm for informal, individual learning in the early years of school. (The Plowden Committee is in a sense the official voice of the primary school revolution.) The infant schools are a historical accident—nobody years ago gave much thought to why children should begin school at five—but British teachers are now realizing their advantages. With kindergarten and the first few years fused together, children have an extended time in which to learn to read and write and work with numbers. This is especially effective if the pattern of learning is largely individual—if the teacher is important, but she doesn't stand in the way or try to take over the whole job. Many of the difficulties that plague formal first-grade classes disappear; children aren't kept back from learning, nor are they branded as problems if they take their time.

B. HOW CHILDREN LEARN

The British Plowden Committee's Report, *Children and Their Primary Schools*, is a complicated document in social history, and to draw one single lesson from it would be a mistake. Some of its surveys are of universal interest—one careful study suggests convincingly what common sense has often suggested before, that parents' attitudes play a larger role in a child's life than anything the school does on its own. Some chapters will be items of political controversy: its excellent proposals for nursery schools and aid to poor areas, for example, have little immediate hope of being pushed through by a government whose finances are in a melancholy state. Some are of purely British interest—the earnest and troubled discussion of compulsory religious education, for example. But an American may be pardoned if one aspect of the report fixes his attention: the extent to which this official document is a radical, if stately hymn of praise to the kinds of classrooms described in my first report [*New Republic*, August 19].

There is no doubt that this remarkable report celebrates a fairly recent change. Until not long ago, heads of many schools could point to a chart in their office showing what each class was doing every minute of the week, and the number of minutes spent on each subject (English, for example, being divided up into periods for spelling, grammar, exercises, composition, recitation, reading, handwriting, and so on.) It is obvious, as the Plowden Report tartly points out, "that this arrangement was not suited to what was known of the nature of children, of the classification of subject matter, or the art of teaching." Since procedures always affect substance, it is hard to believe that the learning in such classrooms was very much different from that epitomized in a 19th-century "Simple Catechism of the History of England Adapted to the Capacities of Young Children," which went like this:

Q. Which was the next king?
A. John, the brother of Richard, succeeded.
Q. What sort of king was he?
A. A very wicked, deceitful, cruel king.

How did change come about? In the first place, a tradition has developed over the last 50 years that gives heads of British schools great freedom in matters of scheduling and curriculum, and teachers a fair amount of say about what goes on in the classroom. By itself this freedom did not produce much change, it is important to note. But it was clearly a prerequisite for reform. Also British schools traditionally feel relatively free from public and parental opinion. This independence seems less of a necessary prerequisite to reform, since parents seem to approve the new methods when they understand them; but it is true that people in British schools are not running as scared as their American counterparts, who often see public opinion not as a source of policy, but as a shadowy, yet massive veto on all innovation.

Plainly, the infant schools, being distinct institutions, have been able to create separate, more experimental traditions than schools higher up the educational ladder. They benefited by having to face five-year-olds, for surely one important element in the primary school revolution has been the awkward necessity to deal with very small children, who are insistently individual and difficult to herd around. The existence of the smaller children has done much to promote individual learning and teaching geared to individuals, rather than groups. This, and the fact that nursery and infant teachers were often trained together in the same institutions, meant that English teachers were inclined as a practical matter to relate their teaching to basic theories of child development. The characteristic innovations of the primary school revolution were first worked out by a number of infant schools much influenced by practices in progressive nursery schools, whose teachers, in turn, had been absorbing the ideas of thinkers like Montessori, Susan Isaacs, Dewey, and Piaget.

Another element in the reform was a different emphasis in the work of the HMI's (government inspectors). As long as the inspectors acted as educational policemen, making the schools toe the mark, their effect over the years was to dampen innovation. But as their role took on more and more of an advisory character, they became important agents for disseminating new ideas. There is a clear moral here: external rules enforced from without not only have little positive effect on schools, but they tend to make their practices rigidify through fear. Where government and local inspectors have ceased inspecting and taken up advising, the results have been excellent. Some of the lively authorities, such as Leicestershire, set up distinct advisory offices, with no administrative responsibilities except to spread ideas and train teachers in new methods.

The shadow of IQ and achievement tests lay heavy on British schools until recently, and the reform has been linked to a partial lifting of the shadow. The pressure has eased most in a few authorities that have successfully abolished the "eleven-plus" examination which used to separate English children at the age of 11 into goats and sheep; a small number of goats went to a "grammar school" that prepared them for a university, while the large number of sheep went to a "secondary modern school" that frequently prepared them for nothing. Some are very good indeed, but all too many are merely custodial institutions, like American slum high schools, with the difference that they speak to students in the very English accents of Mr. Dombey: "I am far from being friendly to what is called by persons of leveling sentiments, general education. But it is necessary that the inferior classes should continue to be taught to know their position and to conduct themselves properly. So far, I approve of schools." Grammar schools, on the other hand, have traditionally been obsessed with the highly competitive tests for university placement, and therefore, like many crack American high schools, their patterns of instruction are very brittle. ("This is a rat race and I am a rat," as a friend of mine who went to Philadelphia's Central High School put it.) Most British educators are ready now to admit that the eleven-plus was fearfully wasteful of talent, and that a test at that age is not a sound prediction of a child's future—except that it becomes a self-fulfilling prophecy, with children defined as stupid coming to act stupid. But while it is disappearing, no one is sure what is to replace it.

Moral for Reformers

Authorities are setting up comprehensive high schools—the policy favored by the Labour government—but it is far from clear that Britain will radically alter its wasteful, meritocratic patterns of secondary and university education. All this of course has a profound, if indirect influence on further prospects for change in the primary schools. It is worth emphasizing that the authorities which are establishing alternatives to a system dominated by IQ and achievement tests are also those where reform has moved farthest, even into the junior schools. The moral for reformers on both sides of the Atlantic is, again, obvious. But the problem of tests is a reminder that, dimly, the ultimate fate of the primary school revolution is related to Britain's "long revolution" toward a more equal society; in this limited sense, its aims parallel some of the contradictory social goals of that ambiguous movement in American history known as progressive education. (More of this in my next report.)

As in America, there has been a great deal of curriculum reform in England in recent years, and this has played a large part in the change. Projects sponsored by the Nuffield Foundation and the Schools Council (a large body composed of representatives of universities and educational organizations, with a guaranteed majority of teachers) are extremely significant, particularly in mathematics, a subject that has undergone dramatic transformation in the last five or six years. Math offers an excellent illustration of the fusion of classroom practice with new ideas on child development that is characteristic of the primary school revolution, and I want to go into this important matter in some detail.

Developmental psychology—the study of the growth of intellect and the order in which various abilities flower—has a great influence on the British schools, but the influence is of a special sort. The same theorists, Baldwin, Isaacs, Bruner, and especially the Swiss psychologist, Jean Piaget, are read in America (along with the dominant American behaviorist school), but to less practical effect. As a rule, theorists have less impact on schools than most people suppose—schools, like girls, are seldom ruined by books—and when they do, it is usually because their theories seem to confirm successful or popular practices. This is generally the case in Britain today, except that the work of the developmental psychologists, and Piaget in particular, has proved so fruitful and suggestive in the area of mathematics that their assumptions are beginning to pervade classrooms and shape the direction of educational innovation.

Some of the most important assumptions are that a great majority of primary school children can't just be told things, that they learn basic mathematical concepts much more slowly than adults realize, and that the patterns of abstract thought used in mathematics must be built up from layer after layer of direct experience—seeing, hearing, feeling, smelling.

According to Piaget, each of us needs to forge, through direct experience, a mental scheme of the world, with a hierarchy of meanings; a learner has to organize material and his own behavior, adapting and being adapted in the process. He learns by his own activity. In a lifetime's work with young children, including his own, Piaget has advanced the idea that children learn to think in stages, and that in the early stages they learn mainly from the testimony of their senses, and not so much through words. At first, small children think intuitively and even magically; at another stage they can deal practically with concrete experiences; and still later they proceed to a point where they can think abstractly and make use of mathematical abstractions. In a series of classic experiments, Piaget has offered persuasive evidence that ideas which seem obvious to an adult are by no means obvious to a small child. Certain mathematical principles are difficult to grasp, except through repeated experience. Take the principle of invariance of number, for example: if you rearrange five pebbles there are still five. It seems hard for children to grasp that. Or reversibility: if you reverse a process—take two beads from eight and then return them—you arrive at the same state of affairs from which you began. Or the principle of conservation: if you put a given amount of water in a flat saucer and pour the contents of the saucer into a tall glass, many children will say that the amount of liquid has changed, and it takes both time and experience to get them to see that the amount is really the same. All this has practical consequences for teaching mathematics: it is of little use to a boy if he can do sums in a workbook but still fails to understand reversal or the conservation of number.

Conservation and Conversation

How does a child learn conservation? Much learning takes place over time, by himself, involving what often looks to an adult like mere play or mindless repetition. A teacher can quicken learning and direct it along more methodical lines by providing suitable experiences and discussion, but children need time and often learn most efficiently on their own. Conversation is important, and part of the teacher's role with small children is to provide words and phrases when needed. Children are encouraged to talk in the good British primary schools, because, among other reasons, it seems that they make better intellectual progress when they can speak freely about what they're doing and when the teacher is ready from time to time with questions and appropriate terms.

Piaget himself has spelled out a fairly exact sequence of development, from intuitive thinking to being able to reason concretely to the use of abstractions, and he has assigned these stages to definite chronological ages. Many teachers have questioned any scheme that pretends to be able to predict what a six- or seven-year-old can learn, just as some critics have argued that Piaget pays too little attention to the social context of learning—the child's feelings, the expectations of the teacher, and more important, those of the parents. And yet there is a growing respect for Piaget's general outline of the stages of a child's development, based on experience in teaching mathematics. Whether or not his theories are ultimately accepted as true, it is clear that he and other developmental theorists have pushed British schools in directions that are pedagogically sound, toward an understanding that abstract concepts and words are hard for children, that children learn best from their own activity, and that they need time in which to grow.

Hence the belief of the good infant schools that what adults call play is a principal means of learning in childhood, a belief that seems more plausible when you consider how much children learn without formal instruction in the years before they come to school. Hence the sand and water tables, the rich variety of number apparatus, the clay, the wood, the geometric shapes to play with, the weights and balances, the Wendy Houses, and the dress-up clothes (to explore adult roles, as well as the materials that make up the world); hence, too, the conviction that a classroom should offer myriads of rich activities to choose from, that allowing children to repeat activities is often good, and that language and experience should link together in conversations among children and with the teacher.

The Schools Council's admirable *Mathematics in the Primary Schools* has a handy checklist of the areas of mathematical knowledge of an ordinary seven-year-old by the time he leaves a good infant school. The list is accurate, and I'm going to restate some of the main categories and describe some of the classroom activities related to each. Remember that in many schools there are no timetable and no division of the curriculum into separate subjects, so "maths" will be going on in the classroom at the same time as painting or reading or writing—much writing in fact, consists of accounts of things done in math.

An ordinary seven-year-old knows:

1. Sorting and classifying things into sets (a set is any defined group of objects); comparing the sizes of two sets, the number of objects in each; the use of terms for expressing inequalities, more than, smaller than and so on. As soon as they come to school, children begin sorting out all manner of things around the classroom, from buttons to pieces of material to building blocks. Sorting out merchandise in the play store is one way to learn about sets, as is laying the dinner table in the Wendy House, making sure to get the right number of forks and knives. On their own, small children sort endlessly, like monks at their beads, "four of these, and five of these."

2. Counting; conservation of number; the composition of numbers up to 20—how a number like 7 can be made up of smaller numbers

added together (4 plus 3); knowing the numbers up to 20 well enough to see that 14 and 6 are 20 without having to count on fingers. Just as children in these classes learn to write by writing, not by filling words in workbooks, they learn counting by counting. They roam around the classroom making inventories of other children, windows, shoes, chairs, always writing the number down. As in reading, they get unfamiliar numbers from each other or the teacher. "Twenty-seven is on the calendar," a boy advises a perplexed little girl who has just finished a count of some milk bottles. They weigh things on scales and balances endlessly: "How many bolts balance nine beams?" Here again the play shop is useful.

3. Knowing the number line—all the numbers in order up to 100; understanding place value in number notation—the fact that each of the 4's in 444 has a value that depends on its place. Many classes have actual number lines, homemade strips of paper a few inches wide and 100 inches long, with the numbers written one per inch in sequence from one to 100, and with the 10's marked prominently with colored magic marker. Along with the big one come number strips of different sizes from one to 10 inches in length; these are used with the big number line to find answers to various problems—addition, subtraction, multiplication. Just by playing with the number line, children can begin to see patterns: if you add 10 to 7 and then keep going, you begin to sense regularities, 17, 27, 37, and so on.

4. Measurement; rulers and other instruments of measurement, including units of money; conservation of measures, liquid and dry (a quart is a quart, whatever the shape of its container); knowledge of the relationship between one unit and another—inches to feet, for example. They invent their own units—their hands, their feet. Children measure the classroom, the playground, and everything within. They measure each other, making graphs of heights. They play games guessing the measurement of something and then finding out who guessed best and writing an account to explain why.

5. Simple fractions: the children learn these by dividing up all kinds of real things into halves, quarters, and three-quarters.

6. Aspects of addition, multiplication, and division as these arise from real situations in the classroom. The idea is to have all the first steps performed on real materials, not as abstract exercises. Before a child tackles two times seven, he handles two sets of seven things, and seven sets of two things, using different kinds of objects.

7. Shape and size, including some simple proportions—such as four times as heavy as, twice as tall as, nearly as old as. Children play with shapes, making and copying patterns. Cardboard boxes are cut out, flattened, and then rebuilt, the children slowly acquiring a sense of what a cube is; here work with shapes touches on solid geometry. At one school in Bristol, children noticed that the wooden floor of the assembly hall consisted of squares about a foot on a side, and on a teacher's suggestion, with the help of some 50-foot lengths of rope, they worked out a game. Following the squares on the floor, pairs of children made polygons with their rope; some were simply large rectangles, most were intricate, with many sides. Then each child would find the area of his polygon by counting (hopping from square to square) the number of squares inside the perimeter. If each child in a pair got a different answer, they recounted. As soon as they were satis-

fied of the area, the children would begin setting themselves problems to do: for instance, given the fixed length of rope, could you make a figure that had an area of only 25 squares? Or, after making a shape you liked, how could you modify it to increase the area two squares? The teacher walked around the hall, asking further questions, helping out the children who still had trouble with the basic area of their first figure, and posing new kinds of problems: you might be asked to describe your shape in words alone, without using physical gestures.

When an American visitor reflects on all these varied activities, he is impressed not so much by the amount learned—though that is certainly staggering—as by its fundamental nature. What the children know, they know for sure; they have time in which to establish an understanding of extremely basic things that are seldom even taught in American classrooms. First-grade teachers in this country are sometimes astonished when they discover how many of the children successfully solving workbook sums have no appreciation of, say, the conservation of number; the same is true of children taught to memorize multiplication tables without ever having had a chance to understand what multiplication means, and what number relationships are involved.

A Creative Influence

The approach is mathematical—stressing learning to think—rather than arithmetical, stressing mechanical computation. Rote learning and memorizing have been abandoned by good British primary schools, partly because they are dull, but more because they are poor ways to learn. It is assumed as a matter of course that children will proceed each at a different pace, doing different things. The idea of readiness is seldom used as a justification for holding a child back—a sure sign that Piaget's influence has been creative, rather than restrictive, since his theories could be used that way. The results of these practices—in perfectly measurable or in less tangible terms—are striking. By giving children an opportunity to explore and experiment—play if you will—and by putting teachers in a position where they can watch children and talk to them about what puzzles or intrigues them, good British primary schools are producing classes where mathematics is a pleasure, and where, each year, there are fewer and fewer mathematical illiterates.

Mathematics not only illustrates the fusion of developmental psychology with actual classroom practice, it is also becoming in itself an important catalyst for schools making the change from formal to informal methods of learning. This is in some part owing to the efforts of the Nuffield Foundation and the Schools Council, whose excellent curriculum materials for primary schools are not textbooks or set courses, but rather practical handbooks of suggestions for teachers, a large amount of whose space is given over to actual samples and pictures of children's work. (The Nuffield math books are dedicated to Piaget.) In sharp contrast to America, where many of the good curriculum projects are the work of university people, the British have taken enormous pains to enlist ordinary primary school teachers in the process of creating and spreading new ideas and materials. This is an important aspect of the great change, and offers a partial explanation for its success.

These are some of the various elements that have gone into the revolution in the British primary schools. Many are distinctly British, and not for export; but there are some lessons for American schools in this great transformation. My next and final report will attempt to sift them out.

C. TEACHING CHILDREN TO THINK

Discontented people in Britain sometimes make polemical use of an imaginary land called America, where everything is democratic and efficient. My purpose in these reports is not to create a rival, equally useless myth for the comfort of disheartened educators on this side of the Atlantic. There is nothing utopian about the good British schools described in these reports. Teachers are, by American standards, underpaid (salaries start at $30 a week). The turnover in staff is ferocious, and schools receive pittances for buying equipment and books. All over, teaching is often a flat business, and always a tough one. It is of immense practical significance that in the flat, tough world of overworked teachers and daily routines, substantial numbers of British primary schools are organizing their classrooms in a way that really does promote individual learning, that allows children to develop at their own pace in the crucial, early years of school.

As samples of the kind of learning that goes on, I've described how children learn to read and write, and the careful way in which they are introduced to mathematics. These methods, I've indicated, are successful in fairly measurable, as well as other, terms. They are not guaranteed to make bad teachers, or people who dislike children, into good teachers. But they are more suited than formal methods to the nature of small children and to the kinds of subjects that should be taught in primary school; and they encourage many ordinary teachers, who find that they are happier using them and less likely to spend all their time worrying about keeping order. Such methods assume that children can respond to courteous treatment by adults, and that to a great extent they can be trained to take the initiative in learning, if choices are real, and if a rich variety of material is offered them. As the Plowden Report concedes, these assumptions are not true for all children (some will probably always benefit more from formal teaching) or for every child all of the time. But the Plowden Report is itself testimony to a growing conviction in Britain that they can be a workable basis for an entire nation's schools.

Are they a workable basis for American schools? The task of creating American schools along these lines will be formidable, to say the very least. This is not the place to rehearse the institutional and cultural obstacles to change in American education, but I do want to anticipate some of the most serious questions that many people will raise about the kinds of schools I've described. In reform, as in anything else, there must be priorities, and in this case the first stark priority is simply to see clearly.

One thing that troubles some Americans about these schools is discipline. They may acknowledge that good British schools are doing better work than good American schools, but they are reluctant to admit that the results stem from, among other things, giving children freedom to choose from among selected activities in the classroom, and to move around the room, talking to each other. If they are teachers, they may react to such a proposition with contempt, because they know how hard it is to maintain discipline in many American classrooms. Where the class is taught as a unit, and every child is supposed to pay attention as the teacher talks, discipline can be a serious matter; it is even more of a problem when the class splits into groups for reading out loud, as any first-grade teacher knows. Quick children get restless; slow children dread the ordeal, and act accordingly. Any teacher who can keep good order under the circumstances, has a certain amount of talent, however, wasted. Tony Kallet, a perceptive American now working as an adviser in Leicestershire, has written of the difficulties in maintaining control of the class in the good, but very formal American school in which he apprenticed. Some children managed quite well, he recalls, but others especially the "problem children," found the discipline too much, too little was permitted them, and "their problems were, in part, being created, rather than mitigated by control." After working with English classes, he felt very different about the problem, but for all the time he was in an American classroom, "it did truly seem that every single control imposed was necessary if anything was to be accomplished," a view that many American teachers will understand.

Some American teachers who have seen the spectacle of children in British classes working diligently on their own have raised another question: they have wondered whether British children are fundamentally different from American children. Certainly British grown-ups are different from Americans, and there may well be important differences in national character. Yet middle-aged English visitors to the informal schools often react with the same disbelief as Americans: they find it hard to credit British children with so much initiative and so much responsibility. Also, formal schools in Britain suffer from discipline problems, so it is hard to know how to speculate intelligently on the question. American teachers working on their own—and how lonely they seem—have often succeeded with methods similar to those of the good British primary schools: a forthcoming book by Herbert Kohl describes a sixth-grade class in Harlem run along fairly free lines—he includes some extraordinarily powerful samples of the children's free writing. A British teacher from one of the good local authorities recently came over to a large American city to teach a demonstration class of 8- to 11-year-olds in a slum school. Before he went, he was assured—by Americans—he would find American children as different from British as day is from night. Yet, he reported, the children reacted exactly as English children to a classroom thoughtfully laid out to permit choices. At first, the American children couldn't believe he meant what he said. After a timid start, they began rushing around the room, trying to sample everything fast, as though time were going to run out on them. Then they "settled remarkably quickly to study in more depth and to explore their environment with interest and enthusiasm." The teacher noticed that for the first two weeks no one did any written English or math, and when he asked them why, they said they hated those subjects. Eventually he got more and more of the class interested in free writing, but he never could get them interested in mathematics.

Reassuring the Parents

Another, more serious, argument against this kind of education is that it won't prepare children for life. The answer the Plowden Report makes to this seems to me remarkably sensible: the best preparation for life is surely to live fully as a child. Sometimes this fear takes the reasonable form of a parent's question: will these informal methods handicap a child if he moves on to a school run on formal lines? This problem is now fairly common in England as children move from good infant schools to old-fashioned junior schools, or from informal primary school to rigid secondary school. I went to a parents' meeting at one superb infant school; the parents, who clearly were completely won over by the methods of the school, were nonetheless apprehensive of what could become of their children in a new situation. The head of the infant school said—which was true—that the children did in fact do very well in the very formal junior school. There was only one repeated complaint about them: they were not very good at sitting still for long periods of time. In general, it seemed clear that an ability to write and to really understand mathematics—to say nothing of an ability to work on their own—stand children in good stead, whatever school they attend later. Heads of good schools argue that children are more adaptable than most parents imagine—and one indication that the problem of switching from one school to another is not crucial is that most heads agree with the Plowden Report's recommendation for another year of the informal methods of infant school; with an extra year, most of them think, they could lick their remaining reading problems, and the transfers will be even easier.

Another pressing question that Americans ask about these methods is, oddly enough, historical in nature. It is said that these kinds of classes were tried out in the progressive era of American education, and found wanting. This is an example of a lesson drawn from history, one of those lessons we cling to tenaciously, and since nothing is so treacherous as our sense of recent history, it bears looking into: Progressive education, like the progressive movements in thought and politics, was woven from many different, often contradictory threads. It took place against a background of the great shift in the function of American secondary schools, which were changing from elite preparatory institutions to mass terminal institutions; just as in the 1950's, when our present picture of progressive education was firmly etched in the popular mind, many high schools were turning into mass college preparatory institutions. The radical attempt to give secondary education to the whole population was an important aspect of progressive education, just as the reaction against it was part of an era when nearly half the students in secondary school would go on to college.

As a movement, progressive education was, in part, a new concern for science brought to bear on society—in the schools this meant educational psychology, tests, and the cult of research. Another element was the characteristic progressive concern with social reform: John Dewey's vain hope that the schools could in some way become centers for the continuous reconstruction of society. Another distinct, if sometimes related, strand was an emphasis on the individual growth and development of the child. This last, in particular, was reflected in the practices of a number of private schools in the 20's and 30's. Good and bad, these schools tended to see children through ideological lenses: they were followers of Freud, at least to the extent that they thought repression wicked, and some idealized children as participants in the artist's historic struggle against bourgeois society. The best of the "child-centered" private schools based much of their teaching on the idea that children come to understand the world through play; they tried to get students to take part in the running of the school, and they broke down the barriers dividing one subject from another, often making the community around them and its life part of the curriculum. These seem today the sound aspects of their work. The ideological emphasis on liberating the child seems, from today's perspective, less useful. In some schools, the energies of staff and children were wasted in testing the limits of permissible behavior, a procedure that was almost forced on the children by an abdication of adult authority. It is not strange that the abdication did not always result in freedom: in practice, freeing children from adult authority can mean exposing them to the tyranny of their peers, and eliminating "external" rules can mean setting up subtle and unacknowledged rules that are just as ruthless and, even worse, vague and arbitrary.

They Never Tried It

It is difficult to find much evidence that the classroom practices of the private schools stressing individual growth ever spread to the public schools. The emphasis of the private progressive schools on cooperation and adjustment to the group was shared by the public schools, but it took a different turn: the public schools practicing adjustment and "Americanization" were fulfilling one of the traditional roles of the American schools, taming objectionable outsiders, making sure that immigrants and lower class people didn't make trouble. The progressive movement in public education was deeply conservative, and was mainly reflected in reform of school administration, putting the operations of the schools more in line with the principles of scientific management espoused by Frederick Taylor and his disciples. (It says much about a misunderstood period that the idea of a school run as a business was much more powerful than the idea of the school as a model civic community, though of course social science, civics and other shattered fragments of John Dewey's dream did enter the curriculum, for better or worse.)

Thus in American public schools, with a few notable exceptions, what we call progressive education was never tried. Progressive education in practice meant secondary education for all, and, perhaps, more educational opportunity; more courses, especially in high school, of the life-adjustment variety; more emphasis on extracurricular activities; more grouping by ability and emphasis on testing; some "project work" that was no doubt a welcome relief from the textbooks; some more or less important changes in the textbooks themselves; reform in the management of the schools, often based on the inappropriate models from the world of business.

What wisps of the vision of education as individual growth trailed into the public schools were largely rhetorical. In their famous study of "Middletown" (Muncie, Indiana) in 1925, the Lynds described the classrooms: "immoveable seats in orderly rows fix the sphere of activity of each child. For all from the timid six-year-old . . . to the . . . high school senior . . . the general routine is much the same." When they returned to Middletown 10 years later, in 1935, "progressive education" had arrived. There was talk of growth, personality development, and creative self-expression:". . . the aim of education should be to enable every child to become a useful citizen, to develop his individual powers to the fullest extent of which he is capable, while at the same time engaged in useful and lifelike activities." Along with the new rhetoric, the Lynds noted, went an increased emphasis on administration; there was no basic change in methods of teaching or classroom organization. Their report can stand as a paradigm of what progressive education amounted to in most American schools. Education that treats people as individuals had become a cliché without ever being reality.

There are clear parallels with the primary school revolution in Britain. It, too, is distantly tied to the changing role of the secondary schools, and certainly much of its rhetoric is reminiscent of the progressive education movement. British schools certainly share the concern with individual development of the good progressive schools. And yet the differences in the two movements are profound. Although there is an emphasis on cooperation in British schools, and children are encouraged to teach each other, there is no abdication of adult authority, and no belief that this would be desirable.

The idea of giving children choices reflects ideology less than a considered judgment as to how they best learn. The teaching of mathematics, as I described in my second report, illustrates the extent to which these schools are intent on teaching children to think, and how little of what they do stems from an ideological interest in making children into social saviours or artistic rebels against bourgeois conventions, or whatever. It is this deep pedagogical seriousness, the attention paid to learning in the classroom, that makes the British primary school revolution so different from progressive education, which was all too often unconcerned with pedagogy.

This pedagogical focus and what it means can be seen in the way the informal British schools are solving the problem of grouping children into classes according to abilities—what the British call "streaming," and what we call "tracking." In both countries it is customary for larger schools to "track" students so that there are A, B, C, and sometimes D or E classes in a supposed order of ability and intelligence. (And within a class there are slow, average and fast reading groups.) On the whole, teachers in Britain and America favor the practice, and it is easy to see why. When you deal with the class as a unit, when learning is done by groups, it is certainly less grueling if the group is of roughly similar abilities, and, within the limits of conventional instruction, tracking does enable children to go at something closer to their own pace. Tracking, or streaming, is a heated subject now in Britain, as it is in this country. The spread of informal methods of teaching is calling its utility into question, and many of the schools run on freer lines are abandoning the practice. The Plowden Report, which clearly favors "unstreaming," cites a survey—the same survey I mentioned in my first report, discussing tested differences between formal and informal schools—suggesting that in terms of measurable achievement, children in tracked schools do slightly, but not much, better than children in informal schools where tracking has been abandoned. There are, as I suggested, reasons for discounting this—the fact that formal schools train children to take achievement tests, whereas informal ones teach more important things, and the evidence that the differences in test scores wane as the children grow older.

Branded as Stupid

In England, as in America, there are many reasons why a practical alternative to tracking would be desirable. Tracking in a primary school brands children as stupid at an early age, with profound and unhappy effects on them.

"I'll never forget the look on the faces of the boys in the lower stream," an East London junior school head told me. His school has successfully abolished the practice, but he is unable to forget the look completely: "I still see it when my boys in the lower streams of secondary modern school come back to visit." Tracking has a profound effect on teachers, too: it tempts them to think that a single pattern of instruction can apply to a whole class, and it increases the odds that they will deal with their children in terms of abstract categories, IQ or whatever. In England, as here, the upper tracks of a school tend to be middle class, which makes the school an instrument for reinforcing social inequality. In America, of course, tracking is commonly a means of maintaining segregation within a supposedly integrated school.

After watching British classes, another argument against tracking occurs to you: it ignores the extent to which children learn from each other, slow children learning from the quick, and the bright ones, in turn, learning from the role of teacher they adopt with the slow. This is most evident in the small number of schools that have adopted family, or vertical, grouping: where there is not only no grouping by ability, but no grouping by age, and every class contains a mixed bag of older and younger children. Yet while all this is true, it makes little sense to condemn tracking unless you can show teachers alternatives to formal classroom teaching. This is where the pedagogical bite of the primary school revolution is so impressive: when a British school today stops tracking, it is not simply returning to the past, it is shifting to a different definition of the roles of teacher and student, and setting up a new kind of classroom in which students are trained to do work independently.

With the blessing of the Plowden Report, fewer and fewer infant schools track and it is increasingly common for junior schools to abandon tracking in the first two years, and in some cases in the third. How far this trend will carry depends on the impact the primary school revolution makes on the secondary schools. A survey in the Plowden Report shows that English teachers, who used to be overwhelmingly in favor of streaming as a general policy for primary schools, are coming to approve of unstreaming. The reason, clearly, is that they are beginning to see workable alternatives.

Tracking is regarded as a necessary evil in this country, as are IQ and standardized achievement tests, formal class teaching, specified curriculum materials, set hours for set subjects, fixed ages for entering school and being promoted and so on. Teachers and administrators often realize that children's intellectual and emotional growth varies just as widely as their physical growth, yet they seldom feel able to act on their understanding, to treat each child differently. The good British schools raise serious doubts as to whether these evils are in fact necessary. In this country, as in England, there is a growing, and on the whole healthy skepticism about education: people are questioning the standard methods of the schools, and they are becoming realistic about the limited extent to which any school can be expected to pick up the marbles for the rest of society. (One interpretation of last year's Coleman Report would be that it calls into question our standard techniques of education, in slums as well as suburbs.) No British teacher would claim that his methods could solve our deepest historical and social problems. But, as far as education can make a difference, the work of the British schools in many different kinds of communities suggests working models of individual learning to those who believe, as I do, that what American education needs is definitely not more of the same.

The forces that might help bring about changes in American schools seem few. To some extent the best of the American curriculum projects—such as Educational Services Inc. (not the Educational Development Corporation)—are pushing schools in the right direction. Good, open-ended materials are often in themselves a kind of retraining course for willing teachers, helping them to become more confident of trying informal methods. Curriculum materials are by no means being abandoned in the British schools, but they are making different use of them: it is clear that any curriculum materials must give teachers and students freedom to use them in a variety of ways, and the best materials are often simply handbooks and guides to new approaches, rather than set lessons. Curriculum materials become more important in the later years of school. Geoffrey Casten, of the Schools Council, worried that the supremely successful methods of the infant schools, where, of course, the "curriculum" is largely generated by the students' own activities, will prove less successful when widely applied to older children by teachers of varying abilities. They may or may not be true: I saw junior schools where the free methods of the infant schools were being triumphantly vindicated, but I also saw others that were very sleepy and could have used the stimulation of good materials. It is unlikely that curriculum projects can make a difference in this country until they find a way to involve ordinary teachers in creating materials. Americans should profit from the British understanding that the really valuable and enduring part of curriculum reform is the process of creation and thought; unless you let teachers in on that, the stuff is likely to be dead. The American curriculum projects and some school systems might be interested in helping to set up equivalents to the advisory centers in good British authorities, teams of teachers and others whose only role is work in the field with classroom teachers, spreading new ideas. Jerrold Zacharias once proposed display centers that would act as supermarkets for teachers interested in new ideas and techniques. (One role of the advisers in England is to take over classes for teachers so they can attend courses and displays.)

The Prospects for Change

Useful work could be done developing new kinds of tests. The IQ and standard achievement tests are not quite the bogies they are made out to be—I have the feeling that schools use tests as an excuse to keep from having to try out anything new. But the likelihood of change would be increased if their grip on the minds of school adminstrators and parents could be loosened. Tests that reflect the ability to write or to reason mathematically would be a great help: the problem is to persuade people to consider the relevance of standards other than the ones now used, and it is clearly a problem that new tests alone would not solve.

Techniques, particularly when devised by outsiders, are never going to be enough. It is in schools that change has to come, and yet the prospects are dim. The private schools that once promoted progressive education are now largely formal in their methods; many are test-ridden, catering to parents who want solid evidence that a second-grade activity will lead to Harvard, and they have invited John Holt's gibe: "a conservative is someone who worships a dead radical." There are communities, where principals and teachers are confident enough of their relationship with parents, that could begin gradually and carefully working along individual lines. Good suburban schools able to face the possibility of slightly lower achievement test scores exist, but they seem to be getting rarer.

Some of the good Head Start programs may influence the schools to make the first few years more flexible. And there is a chance that some of the cities where education has reached a crisis point can be prodded into setting up some freer demonstration classes. A new *class of schools, likely to be interested in individual learning*, *will be* the community schools now beginning to appear in a few cities. They are interested in change, yet they have the burden of working out another, perhaps more important educational problem: how to get parents to participate in the life of the school; this may be hard enough without also trying to change traditional patterns of classroom teaching. Parents in community schools, like parents everywhere when they face schools, lack convincing models of how things could be different, and they are rightly suspicious of theories and experiments.

This is the point: we lack convincing alternatives, actual classrooms that people could go and see, that teachers could work in, functioning schools that would demonstrate to the public and to educators the kind of learning I've described in this series. They must be institutions that can develop and grow over time, not just demonstration classes. (New York City has tried out every good idea in educational history: once.) To make any impact, these schools will have to be very different from private experiments of the 20's and the 30's, with their ideological confusions and their indifference to public education. The temptation is to say we need many such schools, and we probably do. But a tiny number of infant schools pioneered the changes in the British schools, and it is probable that careful work on a small scale is the way to start a reform worth having, whatever our grandiose educational reformers might say. In the end, you always return to a teacher in a classroom full of children. That is the proper locus of a revolution in the primary schools.

II. STOREFRONT SCHOOLS IN HARLEM

In what follows I want to convey some idea of what goes on in a remarkable "street academy" program run by the New York Urban League, and I also want to touch on some of the complexities that wind around such enterprises in the ghetto in these bitter times.

Street academies are schools manned by teachers and streetworkers, operating out of the abandoned storefronts that litter Harlem like empty shells on the beach. They have had considerable success in reaching what some people call dropouts and others call pushouts from the city high schols. In two years they have sent something like 140 students to various colleges, and 150 more are preparing for college in academies and 2 private schools linked to the program. There are academies in a number of places in the city, but the most established ones are in Harlem and the Lower East Side. The number of storefronts is constantly changing, as is their function; in past years the tendency was to start with a lot and then, over the course of a year, to shake down to a manageable number. Right now there are some engaged in job training and setting youths up in local business, some involved in streetwork and recreation, one for young dope addicts, and about 10 offering formal academy instruction.

The formal program is a ladder with three basic rungs, the lowest being the street academy proper, a storefront serving anywhere from 10 to 30 students. An academy has three teachers (with college degrees) and three streetworkers. Of the 120 workers in the program, about 70 are black, mostly from Harlem, and a growing number are alumni of the academies. Streetworkers usually live in the area where they work; a few maintain apartments for homeless kids. Each academy sets its own atmosphere, but what is taught is pretty much the same: a mixture of basic, often remedial reading and math, and subjects like African and black history, sometimes Arabic or Swahili, and sociology, which usually means discussing life in Harlem.

After anywhere from 6 weeks to a year in a street academy, half the students graduate to the second rung of the ladder, another storefront called the Academy of Transition, which offers more systematic preparation. Then, after achieving 8th or 9th grade levels of performance, students are recommended for the third stage, one of two college preparatory schools, Newark Prep and Harlem Prep. (So far about nine in 10 of the students in the Academy of Transition have gone on.)

A visitor's notes:

A streetworker watched a student squinting at a book. It turned out the boy had never had his eyes examined, and a few days later I noticed he was wearing glasses. "Reading problem, ————," was all the worker said. Another told of a student always falling asleep in class; when he was examined, a doctor discovered a small piece of paper stuck in his left ear. For years, nobody had noticed that he was half-deaf.

An intense young teacher, black, was delivering an angry lecture on slavery. Some of his text was drawn from Stanley Elkins' study: he described the Middle Passage, read an account of the mutilation and murder of a slave, and talked about uprisings and revolts. Later, a student came up to me and demanded to know what I thought of the lecture. I said it was fine, but it left me wondering, as many people do, why there had been so few Nat Turners. I told him about Elkins' notion that the institution of slavery had to some degree really turned men into Sambos, docile, watermelon-eating darkies. He resented this—it was a slur, white history—but he was interested, and we kept talking out on the street. He was a dropout from Benjamin Franklin High; through a streetworker, he had begun spending time at the storefront. This history was better than what they taught in school—George Washington and phony stuff—but what he liked most about the teachers here was that they asked things of you, even homework. He was scornful of school, where the teachers were always trying to make deals with the kids, where you could study or not, just so long as you didn't make trouble. That and the police all over the building, disguised as students, really bothered him. He attended classes here all morning; in the afternoon, he did chores in the storefront to earn Neighborhood Youth Corps money ($38 a week), and hung around talking to the workers. He was proud of the fact that his studies here were academic, college preparatory. This seemed more important to him than the promise of college, which was still vague and far away, though it would be nice to get out of Harlem and see some grass and trees for a change.

In another academy: a white teacher went through a reader with a handful of students in a remedial class: two moved along pretty well, two others didn't. He explained that the kids who came in with a 6th or 7th grade reading level were fairly easy to bring up to high school standards. It was a matter of getting them to read more, to find things they were interested in. But some were in bad shape, reading at 2nd or 3rd grade levels or lower, and there was so little material for them that wasn't stupid and boring. He felt the streetworkers coddled them; they had to learn to read, and all this rapping about Harlem and the state of the black soul wasn't going to teach them phonics. "But then a lot of them wouldn't be here without one or two of the streetworkers."

I saw some reports of books a class was reading: Langston Hughes, Richard Wright, Malcolm X. The reports were competent, but not as interesting as the journals two students showed me, full of the kind of abstractly philosophical, yet confessional writing that people their age often like to try their hand at: "My existence is a mystery to be. . ."

In the Academy of Transition: a remarkably patient older teacher went over an algebra problem time and time again for the benefit of a puzzled youth. In the next room a young teacher read the class a dialect poem by Robert Burns which was to illustrate the beginning of Romanticism. The poem, "To a Mouse," was incomprehensible to many in the class and to me. In their notebooks, some duly recorded the main features of the impending Romantic Movement. The teacher, a little embarrassed, explained to me that there was an emphasis on contemporary works, but it was also thought that the students would need to know "some of the rest of this." She was right about contemporary literature: besides a number of black writers, students said they were reading Hemingway and Steinbeck. Down the hall, a teacher was lecturing on African history, the rise of Islam. Three of his students in particular seemed fascinated. They were Muslims, and the divisions in the faith following the death of Mohammed intrigued them. After class they explained some of the unfamiliar names to me and another student. As we talked a voice across the way was asking what a personal pronoun was. "A person, place or thing," came the reluctant answer. "No, a personal pronoun is. . . ."

A streetworker and a teacher led an earnest discussion touching on hairstyles—"what no brother does to his hair"—and the older generation's skin creams and permanents, which angered many in the class. The teacher, looking about the same age as the students, tried to balance their arguments—parents were products of different times, you had to respect the experiences they lived through—but the class wasn't having any. At one point the teacher launched into a vehement sermon on the evils of dope. After World War II, he said, powerful teenage gangs grew up in Harlem, and the whites were so alarmed by this militance that they had introduced the narcotics trade on a large scale to break their bodies and spirits. Now again Harlem was stirring; this time they mustn't let the pushers defeat them.

In some academies, portraits of Malcolm X were in evidence; copies of the *Autobiography* were everywhere, and I got to talking with one student about the contrast between Malcolm and King. He said he admired King, had wept when he was killed, but never felt he could be like King. Malcolm was closer; he represented qualities you yourself could aim at: richer possibilities. When a streetworker joined us, I asked about the courses in black and African history—it seemed to me that the lectures were good but I wasn't sure how much they meant: some students were fascinated and others weren't. They agreed that to many these were merely courses to enjoy or dislike; it was easy to exaggerate students' interest in black subjects. But they both insisted there was a growing mood of racial pride and anger, and it was important that courses were given that sanctioned this mood. The streetworker said that a few intensely serious kids needed—he didn't want to say a religion or an ideology—but something that gave them an idea of how to interpret the world, some coherent body of ideals to start with: "They can work out their own lives, you know, but they need a start, especially the ones going on to white colleges, because that's a hard scene." I wondered whether African history or even the personal example of a militant streetworker would lead to a coherent body of black ideals. He wasn't sure; nor did he know if a school could offer what he was talking about as well as, say, a Muslim organization.

At its best, black consciousness could be a channel for hopes and angers; it could prepare students for what would be a life-long struggle; and maybe a feeling of black solidarity could make it easier to grapple with the white world. It might also serve to counter the dog-eat-dog individualism of the streets. For some, he admitted, the upshot would be fanaticism and black jingoism. We ended talking about the great difference between playing the *role* of a black and actually achieving an *identity:* a role depends too much on the eyes of other people, you are still dancing on somebody else's string, whereas an identity is something you forge for yourself.

One of the strengths (and oddities) of the street academy program is the incongruous collection of people it has assembled. Representatives of very different kinds of past and present efforts to reach people in Harlem coexist and overlap like geological strata. There are white seminarians and university students, Muslins, black nationalists, and people of a more respectable cult who prefer to call themselves Negroes. The man who started and still runs the program, a white former streetworker named Harv Oostdyk, was once connected with a suburban Christian movement called Young Life. He began some years ago with a tutorial center for dropouts in the Church of the Master on Morningside Avenue, and a number of his original recruits were also Young Lifers: some are still on the staff: "Harv has learned a lot," a black worker said. "Used to be every other word was 'Jesus', but Jesus hasn't all that much of a following in Harlem, and now he's stopped that kind of talk." Mr. Oostdyk continues nonetheless to speak in tones reminiscent of muscular Christianity and ruggedly individualistic uplift—he talks of the need for streetworkers with "charisma," capable of "hand-to-hand combat" to save kids from the streets. He also has a vision of great corporate involvement in the renewal of the ghetto, arguing that business is the one segment of white society black people do not regard with disillusionment.

Some of the former Young Lifers and some of the black streetworkers share what sometimes seems a *mystique* of streetwork: "These kids are looking for answers, and we have them." Others describe their role more modestly. Some see themselves as teachers, or in some cases as accomplices of the kids against the system, giving them practical skills by which they can survive and fight back. Some say their main contribution is simply to demonstrate by their existence alernatives to dope, hustling or deadend jobs. One white streetworker worried about his own lack of training: kids with smashed lives, real victims of Harlem, often needed professional help, and he wasn't in a position to give any. A black worker who mistrusted words like "charisma" and "motivation" described what he does this way: "I'm available, the kids know I'm like them. Some can take a lesson. Any kid who's been able to keep from getting all strung up, who's able to move on up, is *strong* to begin with. This program is finding the strong and helping them, otherwise it's kidding itself." Some workers were conservative, scornful of activists they saw as Harlem community spokesmen without a community, and militant leaders without followers: "I try to teach self-help and not a lot of crap about a revolution that isn't going to happen."

Others regarded themselves as black revolutionaries in some sense. Joking, I asked one how it felt to be a revolutionary working for the Urban League. He answered, seriously, that he does worry that the program might just be the system putting its best foot forward. It was basically individualistic, and although everybody hoped some of the kids would return later to work in the ghetto, it was hard to be confident they would, hard not to suspect it was taking leadership out of Harlem. But he wasn't sure. The scene at colleges these days was so different: it was easier to stay black and angry. "When you see what happens to all the talent here, you want to cry. Then you want to do something about it." Another, a "nationalist," had fewer doubts: "If there were a revolution tomorrow, you'd still need storefronts like these to reach the kids." Both made a very odd contrast to Allah, the leader of a Muslim splinter group called the Five Percenters, the "righteous teachers." The Five Percenters operate an academy still loosely linked to the program, although there are few regular academic classes there now, and Allah complained of neglect. In his view "the children" needed more training for jobs and literacy; only a few could take advantage of college preparatory courses, and without basic skills they were going to fall prey to "savages and wolves in the streets."

The streetworkers are young; they get $6,000 a year, and despite the prestige of the job—many students I talked to said they'd like to do streetwork—I didn't suppose most would stay with it for more than four or five years. I put this to one worker, and he said this was a fair assumption. What would they do later? Some would end up as poverty bureaucrats, wheeling and dealing in the maze of agencies in the city. If schools and other institutions ever opened up to new sources of talent, some would surely want to keep working with kids or teaching. A few might make it into politics, building from a base in the streets. What kind of politics was anybody's guess. In conversations like these, people alternated between a feeling that, after all, nothing would ever change in the ghetto, and hunches that Harlem, and particularly young Harlem, is up for grabs.

No single group in the program—whites, blacks, militants, moderates—had a monopoly on good teaching or good streetwork. What the effective people did seem to share was a quality I first thought of as moralism and later came to think of as moral passion. There were no *laissez-faire* teachers; the good ones I saw preached, made demands, and seemed to indicate that learning was a serious business. My impression was that the effective whites emphasized making something of yourself, while the blacks, especially the more militant, put more stress on communal identity. The whites, when they erred, did so on the side of sanctimoniousness, the corresponding black temptation being a sort of showy bogusness.

Anyone who sets out to help the children of the poor into college has to come to terms with the fact that there is a system to our educational institutions, an interlocking set of material, cultural, and psychological barriers that separate out those who make it from those who don't. This is a truism, of course, just as it is a truism to say that the system is based on ignoring many important kinds of differences between students—the rates at which they learn, their separate interests—and standardizing their individuality. The academies have, to an extent, broken out of the usual standardizations imposed by the schools. Partly they do this by what they teach—though not, it must be said, by their methods of teaching, which are strictly conventional. The African and black history, the self-conscious militance of some of the teachers and workers do have an appeal. And in part the academies break the mold by where they are—on the streets—and by the way they can first connect with kids through streetworkers before trying to teach them anything. It makes a world of difference that they, unlike the schools, deal with willing volunteers. And yet while all this is true, it would be a mistake to ignore the hungry of many of the drop-outs for manageable challenges—even conventional demands of the sort that schools are routinely supposed to offer.

Personal pronouns and a sketchy sense of the relation of Burns to the Romantic Movement do not seem to me achievements particularly worth mastering. Nor are they to all students: but to a few earnest kids returning to give learning a last chance, they represent steps on the road to an education, and are taken seriously. (The faith in education that persists beneath layers of cynicism and despair after years of contact with the schools is mysterious, touching, and in some respects a little alarming: it makes these young people seem awfully vulnerable.) In some academies you see lists of rules—no swearing, no hats—which students have agreed to and in some cases have drawn up themselves. This is a part of what many are looking for—even though vain efforts at enforcing the same rules absorb all the energies of teachers and administrators in the schools. The academies are far from being oppressive places; unlike the schools, there is plenty of coming and going and cheerful noise. But a visitor leaves with an impression that there is little difference between many elements in their workings and the way an ordinary principal would want his high school to function. Somehow this makes the failure of the schools seem all the worse.

The academies are trying to teach students how to beat a system, and this involves making some substantial concessions to it. I would have said that a major concession is the stress on preparation for college; but this turns out to be a more complicated matter than it looks at first sight.

There are many things involved. Most obviously, there is the shameful waste of talent in Harlem, where half the students drop out of high school, and three-fourths of those who remain settle for the general diploma. The street academies are proving that a number of dropouts, when reached, can be pointed towards college. There is the angry, insistent drive toward achievement of at least a part of the new generation in the ghettos. This is putting a tremendous strain on all the institutions failing them, not just the schools; but the schools clearly face unprecedented demands to help lift students out of the submerged classes. The notion is spreading among the ambitious young in the ghetto that college is one of the few remaining legitimate paths up and out. Partly this reflects an acquiescence in the society's absorption with degrees and credentials; to a startling extent, the new generation has adopted the increasingly meritocratic assumptions of the rest of America. Partly, too, it reflects a justified suspicion that very few jobs offered black people without college degrees are in any sense a man's work. And partly it reflects the direct and bitter experience of many students with the high schools. Urban high schools, as the whites flee the cities, have been less and less concerned with preparing students for college. Nothing they do suggests to students that they are worthy enough to consider it a real option. Their students realize that the classes taught for the general diploma are essentially custodial in nature, that employers take a dim view of the diploma anyway, and that what is taught is not worth learning. The climate in the high schools has led to a situation where even the students who drop out seem to retain a respect for the idea of academic (college preparatory) courses, however badly taught or irrelevant to their concerns. They think of them, rightly or wrongly, as offering skills that will lead somewhere. More important, they offer a token of something vital to the educational process: an assurance that the school considers them worth teaching. This is an absurd situation in some ways, meritocratic America being victimized by its own symbols. But it exists:

for more and more students, dropouts or not, it is either an academic course or nothing.

Someone once told me that years ago a New York school conducted an experiment which simply involved urging every student to go to college. People came in and explained that scholarships and loans were possible, and the school promised to give students special help and keep in touch with them when they went away. By itself this improved academic performance, and led to less truancy, higher IQ's, and so on. Something similar is at work with the academies. This isn't to say that a lot of their students don't have perfectly straightforward reasons for being there. They tell you they are there because they want a crack at better jobs and a decent existence, a chance to move on up and out of Harlem. One rather sour worker told me: "They're taught to hustle real early. Some of them think college is the new hustle. To them a degree is like a big car." Some are drawn to the program, at least at first, by the Youth Corps salaries a number of students receive as work-scholarships. But for many of the students, it seemed to me, the storefronts and the workers present a challenge to make something of yourself. The fact that the medium of the challenge was a college preparatory course was important, but secondary. The academies offered a sense that what you learned might carry you to a real future even though the specific achievements along the way were not always convincing or intrinsically worthwhile. They suggested a future in which there might be choices. Any solid identity, we are told, depends on feeling that you have choices.

It is no reflection on the academies to point out that only some of their students are able to proceed to the preparatory schools and then college. For the remainder they represent institutions that have taken their aspirations seriously; this is something, but not, obviously, enough. One student said his reading wasn't so good. He was making progress, because here they tried to help you find out what was wrong, and did not just give you tests to flunk you. I asked him about colleges, and he looked uncomfortable. His friends had made fun of him for trying to get into the army, but he was disappointed when he failed part of the written exam. What he really wanted to do was work on guns, be a gunsmith. He knew all about guns. The academy was a good place to him, its program is trying to set up job training courses and local businesses, but talking to him made me reflect again on the depressing quality of life in a society that has so little with which to confront all the diverse talents and imagination of its youth.

Newark and Harlem Prep, the schools that take the academies' graduates, are quite different sorts of institutions. Newark Prep is a 60-year-old private school that began by taking a few of Mr. Oostdyk's tutees and now fills a majority—around 80—of its places with academy students bused over daily from Harlem. This year it placed 27 academy students in college. Its white headmaster, Daniel Alvino, is the complete private school principal, cheerful, much concerned with rules—recently he has relaxed on beards and dress—college board scores, and the shocking state of the transcripts that come in from the Harlem public schools. Classes are quite formal, and the curriculum is that of the standard private school. The students return from this universe to Harlem in the afternoon, to tutor younger kids in the Academy of Transition, to get help or mothering for themselves, or just to hang around with workers and teachers. "Newark Prep is like out in the world," a student said. "Straight and kind of up-tight, not like the academy. It tells you what to expect."

Harlem Prep, an institution spun off from the academy program and no longer directly linked to it, has just finished its first year. It raises its own money, mostly from smaller foundations in New York, though most of its 70 students are academy graduates. It placed 30 students in college this year. During the winter it is housed in a cavernous old armory near the Harlem River Drive; the summer session I visited was out on the shady campus of another private school. Edward Carpenter, its black headmaster and a circle of students were seated around a lunch table. There was discussion of colleges; recruiters from Brandeis had been around, and two students were thinking about going. Then the talk drifted to politics and the future of the races. Mr. Carpenter had told me that he was strictly apolitical, that the school had to stay clear of "that New York jungle" to remain independent, and I was curious what he would say. A student in Muslim dress said the only answer was a 51st state, a black people's state where they could control their own lives. This was met with scorn by another, who said that revolution was the only answer. A girl wondered whether you could have a revolution in economics and politics without violence, and this was denied by another student, who said that nothing was achieved without at least the threat of violence. This student thought a political alliance of blacks and discontented whites was possible. Through all this, Mr. Carpenter played an essentially pedagogical role. He would accept a premise and then urge the speaker to develop a program from it: how would you work the problem of the black people who didn't want to move to the 51st state, what institutions would a revolution develop, what alliances were possible with whites, and what if whites took up the challenge of violence and counterchallenged. It impressed me as an honest job of teaching. He did not condenscend to the students by automatically accepting their fashionable militance, on the other hand he took what they said seriously, as indeed anyone in these tragic days should. He was mainly interested in getting them to develop their arguments, which they did with vigor.

He invited me to visit his math class, but it was hot, and I opted for a cooler room, a tiny English class. Two students were doing a kind of recitation. The idea was to stand and deliver a five-minute talk and then respond to questions and criticisms from the floor. The first student talked in sloppy terms about America as a racist society, and the floor gave him rather a hard time, asking him to explain what he meant or prove various points. A second student began to play the role of a white critic, raising all the standard objections, but elaborating on them in an extremely skillful way, obviously deriving a good deal of sardonic pleasure from his act. Then the second student delivered his recitation, a rather meditative set of questions on existence of the kind I had seen in the academies—and since there was little to do but think about them, the teacher passed around two jazz poems which were read and discussed intelligently.

An English teacher, white, told me that his students were a very mixed lot: all were pretty good, but some were at Harlem Prep simply to better themselves, whereas a growing number were more hip, more socially conscious and aware. He wondered whether there was a black version of the kind of growing upper middle-class social concern; something was spreading to some of the dropouts, especially the bright ones. The brighter students were much more militant. I wondered whether part of this might not come from the mistrust of their own ability to withstand the lures of life at a white university: there was a tone of worried defiance in the lunch table discussion. This may have only indicated that the students realized how awesome a jump they were going to have to make from Harlem to a white campus.

Mother Dowd, a nun in charge of Harlem Prep's relations with colleges, said it was too early to say anything about how graduates were faring at different colleges—NYU, Fordham, Wesleyan, or various places within the New York state system. She had a certain amount of experience placing black students, and she rather thought that these *were* better prepared psychologically, but there would in any case be a certain amount of anguish. One group of five at the University of Buffalo this summer session had already constituted themselves as a militant black student caucus separate from the existing black students' group. But militance did not take you very far unless your academic preparation was good. I asked whether students from Newark and Harlem Prep would be able to thrive in a conventional college program. She thought they had the training (it certainly seemed so to me), but that really boring programs and unsympathetic teachers might disillusion them. Maybe this kind of student could change the way colleges thought about teaching.

We talked about the future of the academies—how far they could expand, as they are hoping to do. My own feeling was that most universities are only ready to do a limited amount of good for the children of the poor. Christopher Jencks and David Riesman have explained the reasons that colleges are unlikely to expand programs to include poor students, for almost every institutional pressure and badge of status in the university system induces administrators to prefer able students who conform to standard programs to needy students who might not fit in. Still, as Mother Dowd pointed out, there are many more places now in colleges than there are black applicants.

The entire academy program is shifting toward greater involvement with the public schools, and particularly Benjamin Franklin High. The plan for this fall is to establish a distinct college preparatory wing inside the school, consisting of 80 graduates of street academies. (Where this will leave Newark and Harlem Prep is not altogether clear. Both expect to have street academy alumni next year; Newark Prep already has its own sources of students, and Harlem Prep is widening its admissions nets, too.) Dropouts and truants from Ben Franklin High will be farmed out to 10 street academies, where street-workers and teachers will prepare them to return to the "Prep Wing." The program is now negotiating on such key matters as the selection of teachers. There are plans for starting programs in other high schools.

The financing of the academies will also undergo a change: up to now the bulk of the money has come from the Ford Foundation ($700,000 in the last year and a half), with some funds from the Neighborhood Youth Corps and the city. Now Mr. Oostdyk has persuaded a number of companies—including IBM, the First National City Bank, Celanese, and others—each to sponsor an academy in the Franklin complex. (A large academy costs about $50,000 a year to run.) Also, in a series of complicated moves, he has tied the program to a city program of neighborhood "satellites," smaller storefronts for streetwork and recreation.

The pressure for these changes comes from within and without. The street academy staff is ambitious (though already spread too thin). Probably the new arrangements will make financing less chancy. But there are grounds for concern. One reason the street academies have succeeded is that so far they have worked from the streets up. First they established contact with students through streetworkers and teachers and then adapted institutions to fit what grew out of this relationship.

They were truly decentralized units, small, and with a fair amount of autonomy for teachers and workers. This enabled them to assemble radically different sorts of people. Such an approach stands in direct contrast to the kind of grandiose institutional engineering the foundations like to sponsor in the name of "fundamental change." It runs counter to the ethos of both schools and large corporations in this country.

The price of involvement with the schools and corporations may in the end prove too high. As the emphasis of the program shifts, there will be difficulty maintaining the present assortment of people. Already one academy was closed because its director was thought too extreme, and to some extent the Five Percenter Academy is being allowed to languish. The program needs to be as various as the streets, and yet it is hard to envision a number of the militant streetworkers I talked to toeing a line chalked by the city schools, just as it is hard to believe that many corporate officials would be pleased by the tone of many of the discussions I heard.

The more the program ties in with the schools, the more it will have to reconsider its narrow aims. It is one thing to run street academies aiming to persuade gifted dropouts to go to college; it is quite another to set up an elite program in one part of a dispirited, mutinous city high school. The street academies will have to begin thinking of other challenges besides college to offer to the mass of Harlem's angry youth, and that will not be easy.

EDUCATIONAL NEEDS OF THE SEVENTIES

Lawrence D. Fish, Executive Director, Northwest Regional Educational Laboratory, Portland, Oreg.

INTRODUCTION

The elementary and secondary education needs of the seventies are of primary concern for those persons responsible for the policies, planning, and operation of schools. The following sections present some conceptions of what education should become, some major changes which should occur, and how these changes might alleviate educational problems. These ideas are presented in five distinct sections:

1. National Goals and Priorities

2. Education as a Community Function
3. New Methods of Instruction and Staffing
4. Educational Organization and Administration
5. Research, Development and Dissemination

While presented separately, common threads are evident throughout the entire article.

National Goals and Priorities

Statements of national goals and priorities for education occur in two major categories:

Fitting children and youth into the social structure
Growth and development of the individual

The recent past in education has focused more heavily upon fitting children and youth into society, as evidenced by the funds and impetus in vocational education, socialization, scientific and technology emphases, behavioral modifications, and indoctrination.

The development of human potential has its historic roots in the Constitution, the philosophy of humanism, and the recent emphases on inquiry, thinking processes, problem solving, arts and humanities courses, and individualizing and personalizing education.

There should be no priority established between these two sets of national goals, for clearly both are present, needed and idealized in the nation, as well as in each individual, family, community and state. For many reasons, the emphasis most recently has been upon fitting the individual into society. There will be a tremendous need for development of educational programs for individual wellbeing during the seventies.

The importance of individual growth and development goals can be seen in the authority challenges, the ethnic and racial pluralism crises, and the changes in economic values. Statements of such goals are available. The task in the seventies will be to develop effective programs to meet these goals.

Education as a Community Function

During the seventies, priority should be placed upon reuniting the educational system with the community, the social agencies, and the institutions which can and should carry out instructional functions.

The child-rearing practices of the home have a significant impact upon the education of children and youth. The church, recreation, police, Head Start programs, business and industry, peer groups, and other community organizations affect the education of children and youth to a significant degree. The challenge will be to focus the unique, coordinated contributions of the various community agencies and institutions on the education of the individual child.

The importance of parent involvement in the intellectual development of the child has never been contested. However, research is now showing that early childhood experiences play a much more important role than had previously been assumed. The understanding, the sharing, and the personal enthusiasm and interest of parents in the child's activities can be strong motivational factors. It is apparent the school must find new ways of strengthening the active participation of parents in the educational process.

Scarce resources and organizational characteristics have tended to encourage educators to be responsive to the vertical organization of schools rather than to parents and the community. For example, teachers are responsive to principals, principals to superintendents, and superintendents to financial demands, including the State and Federal governments. Competition, rather than cooperation and coordination, has developed between and among agencies for scarce resources. Agencies have tended to become more oriented to the needs of the hierarchical organization than to educational needs of children and youth. New ways of encouraging community coordination of education and education-related activities are needed during the seventies.

From the community viewpoint, a number of educational services could have multiple use, rather than duplicated efforts by organizations. Examples of multiple-use complexes could include school and community libraries, including instructional materials; sports and recreation facilities for the school, community and religious groups; performing and creative arts auditoriums and theaters; career development centers for youth and adults used by schools, business and industry, and individuals; multi-service centers for health, medical and dental care, remedial and diagnostic services, counseling and guidance, and rehabilitation and job placement. New ways are needed to encourage these kinds of cooperative endeavors to meet community needs.

Education during the seventies should serve a greater proportion of the population, both within the traditional school ages and in preschool and adult education. The sequence from completed schooling to a lifetime of work should be replaced with periods of schooling, and work training and retraining throughout adult life.

NEW METHODS OF INSTRUCTION AND STAFFING

New developments are needed in instructional methods and staffing. There is the need to expand the bases of personnel and knowledge available to a learner in the best ways for his use. There is need for much greater differentiation of instruction and staff.

INSTRUCTION IN ORDER TO MEET THE PROBLEMS OF INDIVIDUALIZATION

Increased emphasis and differentiation should be placed upon two instructional trends:

1. Educational technology for systematizing instruction, for efficiency in achieving behavior objectives, and for economy in practice
2. Self-directed, individualized, personalized and open-ended instructional activities

Both practices will be essential for education in the seventies. Protagonists for each point of view should be encouraged to develop the best systems possible. However, both should be operable in the schools of the seventies.

These two trends—systematized instruction and self-directed instruction—suggest the need for several instructional developments in the seventies. A growing array of tested learning materials, media, and instructional strategies should be made available. Technology should increasingly supplement, not replace, instructional personnel. Several functions now performed by teachers, however, could better be carried out through technological advances. The teacher's role should feature:

1. Decreased emphasis upon information-giving
2. Increased attention to developing cognitive skills
3. Increased emphasis on programming and content selection
4. Increased emphasis on constructive, affective outcomes
5. Increased emphasis on the student's ability to integrate and utilize cognitive and effective processes

These two trends also should result in better defined criteria for student outcomes. The student should:

—See himself as a learner and be more positively motivated
—Increase his cognition, recall and retention of content material
—Increase the wise use of his skills and knowledge
—Enlarge his capability for purposeful control over his environment and for adaptation in ways which enhance human purpose and dignity

If instruction and learning are to have the above characteristics and impact, several major developments are required during the seventies.

1. Abandoning artificial distinctions between "academic" and "vocational" education, in favor of career development programs which result in capability for entrance into further education, entry level skills for employment, and knowledge of career ladders in one or more occupational areas

2. Increased emphasis on the essential generalizations and modes of inquiry *for literacy* in many disciplines, rather than recall or application in "academic" or "vocational" settings

3. Increased use of competency certification and accreditation, rather than time units, course completions, and prerequisites

4. Increased use of nonauthoritarian, open-ended, high interest, exploratory courses in the arts, humanities, recreation areas, and so forth

5. Increased involvement of students in making decisions about their schools, their education, and solutions to their immediate problems.

STAFFING

Differentiated staffing will be needed as instruction takes on new forms. The optimum mix of humans, events, and technology to produce learner competencies should be laid out in instructional systems. This mix should include the most appropriate staff available for student assistance and instruction during each component of the instructional system.

In some instances, instructional components should be self-contained in terms of content and procedure. The student, himself, can be his own instructional manager. At other times, teacher aides and paraprofessionals can become managers of instructional systems for individuals or groups of students. These instructional aides may be selected from the peer group, from parents in the community, from community ethnic or cultural groups, or from persons in training to become professional teachers.

Highly trained technicians, though not necessarily teachers, will be needed in other instances. Particularly in such areas as the performing and creative arts and in career development, instruction may be carried out by members of the theater, dance groups, or business and industry, rather than by traditionally prepared teachers.

The traditional role of teachers should undergo extensive redefinition in such a conception of education for the seventies. A major role will be the management of staff who operate within an instructional system. A second major role will be the programming of students through the array of materials, events, and experiences which make up components of an instructional system. A third major role will be the individual, clinical diagnosis of student performance and the assessment of groups of students as they progress. A fourth major role will be to ensure that students gain human interaction skills in groups. This conception of the professional teacher will demand skills on the part of teachers to collaborate in the community, to operate with a variety of levels of expertise in and out of school, and to participate in research and development work.

The preparation of differentiated staff will demand that various kinds of "teachers" enter, advance, and leave preparation programs at their own pace on the basis of criterion performance measures. The behavioral definitions of competencies for instruction and their prerequisites should be more clearly established during the seventies, along with the instructional systems to produce those competencies in either preservice or inservice training. The effectiveness of the presence of those competencies as determined by student behavior and performance should be clearly demonstrated.

EDUCATIONAL ORGANIZATION AND ADMINISTRATION

Finance

The financing of education during the seventies should undergo careful analysis and alternative financial patterns should be established. Educational finance is uncoordinated, to a large degree, between the Federal and State level, and between the Federal and local school districts. There is, however, financial coordination between local school districts and States. Every attempt should be made to provide for program and financial coordination among all three levels of governmental support for education.

In most instances, school finance is also considered independent of other public finance at the local, State and Federal levels. While total govermental expenditures have increased at all levels, the proportion of the total has increased dramatically at the Federal level, has remained about constant for the States, and has reduced dramatically at the local level. This shifting of financial support from the local to the Federal level has had a significant effect upon the financing of local services, including education. Effective coordination of resources may relieve this program.

The financing of local government in metropolitan areas is another matter where significant changes are needed during the seventies. The structure of local governments in metropolitan areas has been stable, but these units have proliferated without metropolitan or regional competence or jurisdiction to deal with metropolitan area problems.

This fragmentation of local government, including schools, has resulted in extreme competition for scarce tax dollars. There is a real need to develop patterns for metropolitan areas where coordination could exist and certain functions could become highly centralized while others could become highly localized within a section. It is clear that Federal funds and policies can and should be coordinated, not only in relation to education, but also in education-related areas, such as housing, health, nutrition and welfare, and economic employment.

Power Shifts

The shifts and changes in education are ever changing approximations of the desires, hopes and aspirations of the population and its many subgroups. Shifts in power will take place in the seventies. Special interest groups will vie for power over the system. In the struggle for social change, schools will become a major battle field.

Every indicator in our society points to greater interdependence and greater interaction. Society will tend to become more urban. The speed of communication and tempo of life will increase. The results of these shifts will affect every segment of the society. Education must gear itself to assist the subgroups of the nation to cope with these shifts, and yet maintain their identity and ability to act effectively in a plurality of cultures.

System Renewal Mechanisms

Organizations tend to perpetuate their original natures and past practices. Changes must be expected both in the rationale of education and the methods of undertaking assigned roles. Schools must be encouraged during the seventies to provide orderly mechanisms for appraisal and systems renewal. Special attention must be given to the following.

Long-range planning is required to prepare for current and projected needs. Program funding should not be limited to a fiscal year basis.

Continuous evaluation is required for modification of administrative and organizational structures.

Returns from every expenditure must be worth the cost in sacrificed alternatives.

Analyses of additional value from additional expenditure are necessary because of diminishing returns.

Comparisons of relative merits are made only in terms of relative effectiveness in achieving a common objective.

Research, development, and dissemination must receive significantly greater effort and resources.

Educational, as well as fiscal audits should be instituted through external review and evaluation.

RESEARCH, DEVELOPMENT, AND DISSEMINATION

There is a tremendous need for increased resources for research, development, and dissemination in education. Business, industry, military, and other organizations, both public and private, have devoted considerable resources to these functions to produce viable systems. Similar resources have been largely missing and are greatly needed in education.

Reading is a case in point. There is probably no greater expenditure in education than upon literacy, but large numbers of Americans still remain functionally illiterate. If the "Right To Read" national priority is to be met, a national effort should be mounted to research, develop, test, and disseminate effective reading systems. This will require focusing the available expertise and knowledge upon the problem, along with significant resources.

Coordination of research, development, and dissemination will also be essential. While research and technology have increased, there is need to transpose the findings into usable systems for classrooms which produce effective reading patterns in students. After these systems have been perfected, a major effort will be needed to disseminate and implement them in the millions of schools and classrooms.

State and local school systems seldom have been able to devote needed funds to research and development due to limited resources. These functions may be a unique contribution from Federal resources.

The network of regional laboratories and research and development centers has been a recent attempt to accelerate research, development, and dissemination. These major organizations have developed through Congressional action and through the leadership of the Office of Education. The efforts of these organizations have been most rewarding, even though they are new institutions with limited resources. A high priority should be given to those types of activities during the seventies. This priority should be demonstrated through multi-year funding for multi-year programs with adequate resources to research, develop, and disseminate the materials and procedures needed for the improvements and changes detailed above.

SUMMARY

The problems and needs in education for the seventies have been presented briefly in terms of national goals and priorities, education as a community function, new methods of instruction and staffing, and new patterns for organizing and administering education. Each of these broad areas includes crucial issues for education. Each also will be directly affected by Federal policies and resource allocations.

Rapid changes can be predicted for the seventies, in education as well as in those social, economic, political, and environmental circumstances which affect instruction. The quality and impact of these changes can become positive through careful, long-range planning, and rational development of programs. Without thorough planning and development, rapid changes could result in chaotic conditions.

Preparing for changes to meet the educational problems and needs of the seventies can be handled best through research, development, and dissemination of carefully designed materials and procedures. These must be readily available in usable forms to the educational leadership on Local, State and Federal levels. This information will promote logical and rational changes which alleviate educational problems and provide for predictable needs in the seventies.

The significant impact of research, development, and dissemination of educational materials and procedures has been demonstrated by the regional laboratories and research and development centers. The long-term multi-year programmatic efforts of such organizations are vital to the solution of the educational problems which face this Nation. Adequate resources for educational research, development, and dissemination must have a high priority for the Congress of the United States if we are to provide for the educational needs of the next decade.

THE FUNCTIONS OF EDUCATION IN THE SCHOOLS OF THE SEVENTIES

John C. Flanagan, Chairman, Board of Directors, American Institutes for Research, Palo Alto, Calif.

The ideas regarding school programs to be described here will be based on clearly defined trends. The projections will not go to the twenty-first century or even to 1984, but only to the seventies. It is hoped that this estimate of what the immediate future will be like will emphasize the urgency of the need for changes in the various curricula to meet the requirements of the schools in the next few years.

The most obvious trend in American education is the change from a system for educating the elite to a system for *educating all the children.* This change is dramatically illustrated by the change over the last 60 years in the proportion of those entering the first grade who go on the complete high school. This figure has increased from 10 percent to 70 percent over this period. In the last several years the percent completing high school has been increasing about 1 percent per year. It seems likely that the goal of elementary and secondary education for all will be achieved in the not far distant future.

Because of this anticipated infusion of students who in the past dropped out, the students of future years generally will be less academically inclined and somewhat more limited in their ability to use language as a tool of communication. The 1960 Project TALENT survey indicated that about four students per thousand at the ninth grade level were unable to read even simple sentences. More importantly, the Project TALENT study indicated that the typical high school twelfth grader had serious difficulties comprehending paragraphs from the *Reader's Digest*, failed to understand even a larger portion of the ideas in paragraphs from *Time* magazine, and missed more than 7 of 10 questions based on the typical paragraphs selected from the *Saturday Review*. It should be emphasized that not only are there large individual differences in the ability of students to read and comprehend materials—there are also increasingly large differences in their interests and their ability patterns.

The second major trend is the *rapid increase in technology* in our era. These technological changes are having a major impact on career patterns, leisure time activities, and the responsibilities of the citizen for both civic and international relations. The technological revolution has not yet occurred in education, but there are numerous indications that this will not be delayed for long. There is little doubt that the future schoolroom will benefit greatly from technological advances which will provide both audio and visual performances of plays and poems by the best available talent. Instant replays can assist the student to appreciate the methods of both the author and the actor in expressing an idea. Similarly, the electronic computer is becoming a valuable resource to the student and teacher.

Another trend, which is at least in part dependent on the two trends noted above, is the enormous *expansion in available knowledge*. The number of books in print is increasing exponentially and the concepts, principles, and theories in many fields are growing so rapidly that procedures for selecting the most appropriate materials and for improving the efficiency of learning are absolutely essential for future schoolrooms.

A fourth trend is the *broadening of the focus of the educational program.* Other changes make it necessary for the school to accept increased responsibility for (a) preparing the student for an appropriate occupational role, (b) preparing the student for citizenship responsibilities, and (c) assisting the student to find and explore satisfying activities for the increased leisure and recreational time anticipated. This broadening of focus would apply not only to the changing functions of education, but also to the increased emphasis on developing *abilities* rather than memorizing content. Students must learn how to learn, how to think, and how to make decisions and choices.

The fifth trend is toward *focusing on the individual's educational development* rather than on a course to be given to all of the 30 students in a classroom. The increased variation in the patterns of ability of the students, the specific requirements for their anticipated roles and activities, together with the need for greater efficiency, tend to make it even more desirable to individualize most aspects of the educational program.

Another important trend is *the use of more systematic and sophisticated procedures for both determining and stating educational objectives.* Traditionally, in American schools, the textbooks and a narrowly prescribed course of study defined the main educational objectives in the various subjects. In isolated instances experimental schools were established with unconventional objectives and teaching methods. Also, many teachers were allowed to formulate their own educational objectives for their students. In the past 30 years national commissions, State and local committees, and groups of teachers have developed sets of educational objectives. The usual procedure has been to pool the experiences and impressions of the group members and formulate a set of educational objectives. This has resulted in the proliferation of many sets of objectives. These sets have similarities, but each set has its own distinctive emphasis and flavor.

One of the first suggestions, that there might be a better way than merely pooling personal experience to develop objectives, was the statement of Dr. Ralph W. Tyler in his chapter on improving instruction in *Educational Measurement* (American Council on Education, Washington, D.C., 1951). Dr. Tyler stated:

> There are types of data that can be obtained by the school, college, or instructor that will provide bases for wiser decisions than when the choice of goals is made without such information. These include: (1) data regarding the students themselves, their present abilities, knowledge, skills, interests, attitudes, and needs; (2) data regarding the demands society is making upon the graduates, opportunities and defects of contemporary society that have significance for education, and the like; (3) suggestions of specialists in various subject fields regarding the contributions they think their subjects can make to the education of students. . . . Another consideration in choosing objectives is the findings of studies in the psychology of learning.

More recently, Dr. Joseph J. Schwab of the University of Chicago, in an address delivered before the American Educational Research Association in February 1969, presented the thesis:

> There will be a renascence of the field of curriculum, a renewed capacity to contribute to the quality of American education, only if the bulk of curriculum energies are diverted from the theoretic to the practical, to the quasi-practical, and to the eclectic. . . . What is wanted is a totally new and extensive pattern of *empirical* study of classroom action and reaction; a study not as basis for theoretical concerns about the nature of the teaching or learning process, but as a basis for beginning to know what we are doing, what we are not doing, and to what effect; what changes are needed, which needed changes can be instituted with what costs or economies, and how they can be effected with minimum tearing of the remaining fabric of educational effort.

More recently Dr. Elliot W. Eisner, chairman of the Cubberley Curriculum Conference held at Stanford in May 1969, in his closing remarks emphasized the need to collect a wide range of valid data to evaluate the attainment during the school years of important real-life objectives. Perhaps the best example of this trend toward a systematic and sophisticated approach to the development of educational objectives is exemplified by the three-year study now in its second year in Bucks County, Pennsylvania, known as the Quality Education Program Study. In this study, extensive data is being collected in representative school districts based on classroom observations of behavior indicating both effective learning and learning deficiencies. This data is being supplemented with intensive longitudinal case studies of both students and graduates to provide empirical data to be used as one of the bases for developing educational objectives.

IMPLICATIONS OF THESE TRENDS FOR THE SCHOOLS OF THE SEVENTIES

The major implications of the six trends briefly discussed above for the schools of the seventies can be described under three main headings: first, a more functional curriculum; second, a truly individualized educational program for each child; and third, a new role for the teacher as an experienced guide, a continuous source of inspiration, and a valued companion in the child's search for self-realization.

The quality of education is very dependent on what the student is given an opportunity to learn. Much of what is in the curriculum today is obsolete. It is not so clear what the most functional replacements would be. It can be expected that objectives stated in terms of specific content will be replaced by generalizations such as concepts and principles. In all fields there is a strong tendency to replace simple facts with more functional skills and abilities. These include such tools as reasoning, communication, judgment, intuition, and creativity. Similarly, instead of exposing the learner in the schools of the seventies to music, paintings, poetry, and prose which the experts agree reveal beauty and truth to them, a genuine effort will be made to expose the child to examples which are functional for him in developing appreciation of effective or creative expression of an idea. It has been said that an important ingredient of education is an exposure to greatness. However, if the student perceives greatness primarily as something unintelligible to him, the educational experience has more than failed—it has reduced his ability to appreciate this type of greatness.

The functional curriculum of the future schoolroom will not be focused on having the students learn who was the author of what novel or the name of the leading character in a particular book. Specialists in language arts are recommending that the basic functions of reading, writing, listening, and speaking provide the central core around which the curriculum in language, literature, and composition is to be constructed. Skills such as interpretation, critical reading, organization, and creative writing will be emphasized within these broad topics.

It can be argued that good teachers have been doing this for many years. Perhaps the major difference will be in the explicitness of the objectives and the direct way in which the effectiveness of the instruction will be evaluated.

The second change which will result from the trends listed above is the development of a *truly individualized educational program for each child.* This change will have a marked effect on the appearance, management, and equipment of the classroom and the functional roles of the teacher and students. Individualized *instruction* has been talked about in schools for more than 50 years and numerous attempts have been made to ungrade the curriculum and allow each student to proceed at his own pace. A system of individualized *education* is only now beginning to be developed. The distinction being made between individualized education and individualized instruction is that in individualized education the *curriculum* is adapted to the individual student as well as the rate and method of learning.

This type of educational program gives the individual student the responsibility for formulating goals, making decisions and plans with respect to his educational development, and the management of the learning program to carry out this program and achieve his goals. It is important to examine carefully the implications of this type of an educational system since there seems little doubt that students desire, and will be given, increased responsibility. Ignorance of choices and consequences is the main cause of unwise decisions and the individualized educational program must therefore assist the student to learn about the many roles, opportunities, and activities which life offers him. He must also learn how his present level of development, with respect to the abilities required by these possible choices, can be changed in order to qualify him for desired goals. This requires some knowledge of both individual differences and principles of learning.

Such an educational system requires that the student start learning about the world of work and the satisfactions to be gained in avocational pursuits, as well as the responsibilities of citizenship, during the first year in school. By sometime in the intermediate grades students begin to relate the abilities, interests, and values contained in descriptions of former students with the goals formulated by those students and their subsequent case histories. Gradually, by the time the student is required to make important choices in the eighth and ninth grades, it is hoped that he will have had practice in anticipating the consequences of various choices for persons with known characteristics and will be prepared to make tentative decisions for himself.

It should be emphasized that schools do not operate on this basis at the present time. If the student wants to know what to do, he goes to an advisor or asks a teacher or his parents. Other "advisors" include his peers, the press, radio, and television. Unfortunately, it cannot be expected that all advisors will agree and the student must take responsibility for the final choice. With the possibilities for educational development becoming increasingly numerous and complex and the potential losses from wrong decisions mounting, the importance of detailed knowledge of the available choices in relation to his abilities, interests, and values is abundantly clear.

To enable the student to acquire the detailed knowledge of contemporary life and its opportunities, it may be necessary for the curriculum makers in such subject areas as language arts, social studies, science, and mathematics to draw only sparingly from the great literature of the past. Contemporary models and problems may have to play a greater role in the novels, biographies, and other written materials used in achieving the primary objectives of the language arts curriculum. There is so much to learn about how to live in the twentieth century that we may not be able to afford the luxury of a detailed knowledge of life in the Roman Empire.

Some of the problems and procedures in the development of one new system of individualized education will be described briefly. First, a comprehensive set of educational objectives is being prepared. These include both the kinds of objectives that can be achieved in a two-week period and also intermediate and longer-range objectives. The longer-range objectives are items such as reading comprehension, interpretation, and effective expression which appear to be best measured along a developmental scale rather than in terms of mastery or unsatisfactory performance on a specific test. The short-term educational objectives are grouped in such a way as to require about 10 to 20 hours of student time for mastery. These groups of objectives are referred to as *modules* and the guide suggesting the specific textual materials, films, tapes, or workbooks used to achieve these objectives is called a *teaching-learning unit.* The test given when the student feels he has mastered the objectives of the module is called the *module test.* The average student is expected to complete about 20 modules during the academic year in a given subject. A comprehensive educational program from Grades 1 through 12 would contain at least 2,000 or 3,000 modules of which the average student would take only about 1,000. Thus, it becomes very important to select those most appropriate for the educational development which will assist the student to achieve his life goals.

This introduces a new problem into curriculum making, the question of which set of approximately 200 modules from among those available in the language arts curriculum are most appropriate for a student's educational development. One approach to reducing this question to more nearly manageable proportions utilizes a classification system involving long-range goals. For example, using the test results and follow-up data from the 440,000 students included in the Project TALENT survey in 1960, a set of 12 groups of occupations has been developed. Briefly, these can be summarized in terms of the following group names:

1. Engineering, mathematics, physical science, architecture
2. Medical and biological professions
3. Business administration
4. General teaching and social service
5. Humanities, law, social and behavioral sciences

6. Fine arts, performing arts
7. Technical
8. Business, sales
9. Mechanical and industrial trades
10. Secretarial, clerical
11. Construction trades
12. General, community service, public service

Although the occupational group for which the student is preparing is certainly not a sole determiner of the language arts objectives most important for him, it can assist in the inevitable selection procedures which must be used. A program of study developed for a student using all available information about his goals, abilities, and interests must always be regarded as tentative and subject to continual review in the light of his recent performance and other types of new information. In proceeding through his program of studies, the student takes the module test as he completes the module and if he passes all objectives he moves on to the next module. If he does not show mastery of some of the objectives, he is directed back to the same or alternate learning units for additional study and review.

It is hoped that curriculum groups will give thoughtful consideration to assisting in the development of decision rules and procedures for generating the most appropriate program of studies in language arts and the other subjects for each student.

The final topic is the role of the teacher in the future schoolroom. Clearly, for an individualized program of the type described above, there will be only a minimum of teacher presentation to a class of 30 students. With the new technological equipment, such items as tapes, film strips, and even movies may be used by a single student or a small groups of students. Even the 6-year-olds have shown that they can manage the tape cassettes and the roller-type film strips without assistance from the teacher. The teacher's role is one of managing and administering the classroom in a way that students can take full advantage of the opportunities for learning. The learning guides and instructional materials and equipment must be readily accessible to the students. The learning units assigned are judged in advance to be ones on which the student can succeed. However, in case there is an unexpected difficulty, the teacher or another student is expected to provide assistance.

Teachers who have participated in this system indicate that they are required to learn a great deal more about each individual student as a person in order to assist him with problems of availability of materials, planning, and acquiring information about the most efficient learning methods for him. Students in the new system do not perceive the teacher as someone to be pleased by completing assignments given them, but rather as an aid in the program of educational development that they have helped formulate. By assisting the student to formulate at least tentative goals and by seeing that he is given evidence of his progress toward attaining these goals in terms that have direct meaning and known implications for his future plans, the teacher can contribute to the student's motivation for learning and his acceptance of the responsibility for his educational development.

The use of a computer terminal in the school to score students' tests and to store the results for future reference relieves the teacher of much of the usual clerical load and makes available an invaluable resource for the student's use in formulating his program of studies and his long-range goals. The teachers who have participated in the development and early use of this new educational program are enthusiastic about its potentialities for providing a much better education for our future students.

TEACHER EDUCATION—A HIGH PRIORITY

Ned A. Flanders, Professor of Education, The University of Michigan, Ann Arbor, Mich., and Fellow, Center for Advanced Study in the Behavioral Sciences, Stanford, California

It would be understandable if Congress sees itself standing at the threshold of the 1970's somewhat disillusioned with its power to improve the quality of public education through Federally supported programs. For some, this disillusionment may be due to the vast differences between what was expected and what actually resulted from such innovative efforts as the National Defense Education Act or the Elementary and Secondary Education Act. For others, one need only point to current social problems, current activities of youth, or to the plight of disadvantaged children as evidence of a pessimistic prognosis.

So the first proposition of these comments is that in spite of disillusionment, or perhaps because of it, Congress has no alternative to continuing and expanding the Federal investment. New programs for education must be created and the more effective parts of old programs must be continued with increased effort and Federal expenditures. Congress has no alternative because the problems of education in the 1970's will become more pressing, not less, compared with the 1960's.

The second proposition is that Federal support to education in the 1970's will have the greatest chance of success by supporting programs for the preparation of young people who enter the teaching profession. It is to this second proposition that the rest of these comments are addressed.

First, teaching is a profession which is highly transient. More than one-half of our youth are taught by persons who teach for three years or less. Young ladies leave teaching for marriage and child rearing; some return. Some young men start in teaching, only to leave for other jobs, in one case as exalted as the Presidency of the United States. How well these young people are prepared, just as they start to teach, will surely influence the quality of education in this country.

Second, the decades of the 1950's and 1960's have seen some progress in analyzing the differences between more effective and less effective teachers. Most of this evidence is the direct result of Federally-supported research. In my opinion the activities of the U.S.O.E.-supported research and development centers, the regional educational laboratories, and individual research contracts with educational scholars have produced very promising first steps. We now know much more about analyzing teacher behavior, how questions can be used by teachers, how video magnetic tape recording can help teachers study their own teaching techniques, and how various innovations can be brought together to provide a more adequate preparation for teaching.

Third, as both public and private funds are devoted to the development of instructional materials which students can use by themselves, and as programmed instruction and computers are slowly being molded into instructional resources, there are new demands which the classroom teacher must face. Much of what teachers were doing 20 or 30 years ago will soon be taken over by these new instructional media. The classroom teacher will need to master certain skills of teaching far more effectively than in the past.

Fourth, the U.S.O.E. is actively promoting the development of new programs designed to prepare young adults for teaching, but more money must be appropriated for this purpose. For example, several millions have been spent to design and develop new teacher preparation programs, but the problems of deciding which innovations are superior to older programs, or which of the innovations show the most progress, has not been adequately investigated. This lack of evaluation is due primarily to lack of funds. For every dollar spent on designing new programs for teacher preparation, two additional dollars are needed to estimate whether the innovation is an improvement.

Fifth, research, development, evaluation, and dissemination in the field of teacher education are essentially a Federal responsibility. The responsibility does not follow so much from law or the Constitution; instead, it is the result of the monumental size of the task. Colleges and universities can barely meet their responsibilities and current teaching loads. State departments and Local institutions have other uses for their resources. The only resources that are likely to become available will be the direct result of Congressional action, closely coordinated with the U.S.O.E.

To the extent that the foregoing has merit, I would propose that Congress appropriate increasing annual amounts of money to the budget of the U.S.O.E., without decreasing support for any current programs, which are earmarked for reseach, development, evaluation, and dissemination in the field of teacher education and professional preparation. As a target I would suggest that by 1973 that there be $5 million for program development and $10 million for program evaluation. It would be hoped that in 1975 these funds would still be continued but an increasing proportion devoted to dissemination activities.

ELEMENTARY AND SECONDARY EDUCATIONAL NEEDS FOR THE SEVENTIES

Lamar Fortenberry, Superintendent, Canton Public Schools, Canton, Miss.

To determine the elementary and secondary educational needs for the seventies requires a realistic look at the capabilities of pupils in relation to what will take place during the next seven decades that these pupils will participate in American society. Admittedly, there is an unanswerable question on how can one hazard even a guess at what will take place that far in the future in a society that today is changing so rapidly that projections from the very best scientists and the most learned philosophers are hardly more than educated guesses. The truth is that one simply cannot make such a prediction with any degree of reliability. At best, he can only surmise as to what will take place during the next seven decades.

One, can, however, examine the mental and physical capabilities of youth and it is here that society can begin to establish a basis on which to build a realistic and effective educational program. Determining the educational needs of the seventies begins with an accurate assessment of the strengths, weaknesses, hopes, and fears of individuals. To say that this is now being done in American schools is a myth. Far too often, educators make certain assumptions as to what students can or cannot do and what students want or do not want to do, and on such erroneous assumptions they proceed to develop and administer educational programs that miss the realistic educational goals of individuals by a country mile. This fallacy points to the first and probably foremost educational need for the seventies.

Need Number One is that every individual should have an opportunity to learn to know himself. This involves an extensive diagnostic testing program with competent psychologists and testing experts in sufficient numbers and sufficient materials and equipment to give sufficient time to each individual so that he might come to know himself sufficiently well that he can make intelligent decisions regarding what is possible for him to do well and happily in the future. Present day testing programs fall far short of this goal. Few students now have a reasonable opportunity to learn to know their strengths, weaknesses, and possibilities in time to benefit most from elementary and secondary school experiences.

Need Number Two is to design educational programs made up of a wide range of educational offerings taught on a wide range of levels. These offerings should be so numerous and so flexible that any individual, regardless of mental or physical conditions or needs, might find an educational program that can be adjusted and tailored to his own unique educational aims and objectives.

Need Number Three should be the determination of what it is that society seeks to accomplish through its elementary and secondary schools. To do this, society should project its imagination into the future and in doing so describe in general terms the product that it wishes to develop in the elementary and secondary schools.

Need Number Four should be for society to relate the desired educational product of elementary and secondary schools to those kinds of educational experiences necessary to produce this product. Part of this problem should be related to the first need of accurately assessing individual capacities. It should be also related to need Number Two of providing a wide range of educational experiences that are clearly and easily within the reach of each individual needing these experiences.

Need Number Five is a written description of educational experiences necessary for effective learning together with machines, films, T.V., books, periodicals, furniture, and buildings that help motivate individuals. Included in this description should be projected courses of instruction, learning media, and learning environments made possible by modern technology and aimed at new approaches to learning never before envisioned by American educators. Most innovations today are simply adaptations of the old presented in a fresh new way. To have the quality of education desirable for the seventies, society will need more. The general theme should be a new, dynamic, evolving educational program aimed at meeting futuristic educational needs of young people. There should be much refinement and selectivity in instructional control. No one in the seventies will be capable of mastering all of the available information. Society will need to determine that body of information that it considers to be most beautiful and most useful and create educational experiences so that each student may, on an individual and personalized basis, develop himself to the highest point possible with his God-given capacities.

Need Number Six is the development of experimental schools with unlimited finances where all sorts of novel and promising ideas may be tried and possibly proved in actual practice before subjecting large numbers of pupils to ideologies and practices that may or may not work to the advantage of society. Admittedly, this may be at times harmful to experimental groups, but in today's world far too many school systems are subjecting all children to innovational ideas before they have been proved to be advantageous. Society should have some assurance of profitability before allowing children to be subjected on a wholesale basis to partially proved educational ideas.

To accomplish the above objectives during the seventies will require considerable more educational expenditures, but of equal or greater importance will be the necessity for developing educational administrators who are highly trained in the wise use of personnel, space, and time. The educational administrator of the future should be one who knows what constitutes quality instruction and who is also capable of getting the greatest possible amount of instruction for each dollar spent on education. In short, he should be not only an expert in the techniques of instruction but also a financial wizard. In the average school district in America, the school superintendent heads possibly the biggest financial enterprise in the community. Consequently, he needs to be highly trained in finance as related to quality educational opportunities. Presently, the most cursory examination would probably reveal that many school systems, even though short of funds, suffer most from the lack of training on the part of its leaders in the wise application of available funds to educational needs.

In conclusion, present-day society should take a good look at what is now good on the American elementary-secondary educational scene, hold on to this, refine it, and give increased emphasis (1) to properly financing a well-rounded public school program, (2) to demanding measurable quality educational opportunities in return for every dollar spent on education, (3) to making sure that educational leaders continuously strive to adapt elementary and secondary schools to meet the demands that are surely to come during the seventies.

THE QUALITY OF AMERICAN EDUCATION—A PROBLEM FOR THE SEVENTIES

Robert M. Gagné, Professor of Educational Research, Florida State University, Tallahassee, Fla.

Throughout the current decade, American education has been subjected to many shocks. The redistribution of racial and ethnic student groupings, the growing teacher militancy, the many instances of student unrest and demonstration, are three of the prominent examples of events that have disrupted the smooth and efficient operation of the complex enterprise devoted to the education of the young. Among other effects, these occurrences have tended to distract us from attending to the question, How well are our schools performing the job of educating for our modern society? This question was considered an important one in the fifties, because that was the time of Sputnik. Since then it has diminished in degree of public interest. Yet there are signs that it will once again become an issue which engages the attention of American citizens.

In recent years, we have begun to hear many questions raised about the quality of American life. It is not surprising to find such a concern centering initially on the physical aspects of our environment, which are its most salient features—the pollution of air and streams, the crowded condition of cities, the inadequacy of transportation systems, the destruction of ecological balance, and the like.

It seems probable that the concern for the quality of life will soon extend to the quality of our social environment, as well. In that sphere we have plenty to be worried about. What about the cultural poverty which is always closely related to economic poverty? What about the erosion of the quality of services and the virtual disappearance of good workmanship? What about the degradation of quality of symbolic communication which has accompanied the rise of pictorial media? Are we able to enjoy, to the extent that we want to, the informal and spontaneous social activities like the pick-up softball game, the neighborhood barbecue or game of horseshoe-pitching? Has not the quality of manners and politeness been eroded, at one end of the scale which extends to social conflict and crimes against the person? Why are our youth disaffected and alienated?

While problems of the physical environment are difficult, they can be tackled with the help of technical and managerial knowledge. The social ills, however, are all obviously relatable to the process we employ to foster learning in people, particularly young people—that is, to education. In a broad sense, education is the major tool we have to maintain the quality of our social environment in the face of basic economic and technological developments which set the limits within which our society, and that of the whole world, can evolve.

One way or another, and in one form or another, we must turn to education as the means of restoring or improving the quality of life, insofar as this is affected by the institutions, the customs, the habits of social interaction among human beings. To some degree, we can treat the "symptoms" as we do, for example, when we pass laws which regulate various aspects of social behavior. But if we are concerned with the causes of degradation in quality of our social environment, we must seek to improve the quality of education.

Educational Improvement by Special Program

During recent years, attempts have been made to improve educational quality through the establishment of *special programs* aimed at particular aspects of the educational process and its institutions. The appearance of Sputnik made us aware of possible deficiencies in science and mathematics education, and we mounted extensive efforts to overcome them. Later, spurred by racial integration in the schools, we became aware of deficiencies in basic intellectual skills in parts of school populations, and established programs of "compensatory" education intended to remediate these deficiencies. More recently still, we became acutely aware of the mental handicaps associated with poverty and the social environment. We began to speak of "cultural deprivation," the problems of inner city schools, and generated special programs to attack these particular problems. The blind, the deaf, the physically handicapped, were singled out for special programs designed to improve the educational process for these particular components of the school population.

The underlying rationale for special programs, insofar as one exists, must be that our basic approach to education, our system of education in its main outlines, displays no prominent weaknesses or difficulties. All that is wrong with the basic system is that certain unevennesses in emphasis occur from time to time—we find we are not emphasizing science enough, or black history, or health education, and we hurry to establish special programs to overcome these specific difficulties.

In practical terms, such special programs are successful in their appeal for funds on the national level. The Congress tends, on the whole, to listen to and respond to appeals for the establishment of programs which are relatively circumscribed in scope, and which appear to be aimed at solving particular educational problems or removing particular inequities.

There is, however, another possibility which is not envisaged by the approach of establishing special programs. This is the possibility that the complex of social ills which we see today, and which are symptoms of deterioration of our social environment, require attention to the total structure of our educational system and the quality of its output. It is the possibility that special programs are mere patches on a set of institutions which are not adequately performing their function of maintaining and improving the quality of social life in a modern society.

Special programs may have the effect merely of accomplishing slight shifts in emphasis among the many portions of the school curriculum which compete for emphasis and for time; they result in a little more mathematics here, a little less American history there, a little more science here, a little less spelling there. In the meantime, the basic questions of educational quality are ignored, and the system as a whole continues to fall farther and farther behind in its ability to perform its function of improving the quality of the social environment.

There are, of course, a number of forces in our society which operate to lend support to the approach of educational improvement through special programs. Some particular kinds of people are directly benefitted by the establishment of special programs, through advancement in status and income. Naturally, teachers and other educators who concern themselves with instruction of the handicapped, for example, are gratified when attention is paid to their field of interest, and when increased funds become available for enlarging the scope of their efforts. So too for educators in science, or health, or language skills, when special programs come along to give greater emphasis to their special fields.

The most potent forces, however, are not those who have an interest in the special programs themselves, but whose interest is in preserving the status quo of the educational system as it currently exists. Prominent among these are, first, the teachers and administrators who are parts of the system, and who therefore perceive attempts to change it in any fundamental way as threats to their occupational security. A second group, perhaps equally powerful, is composed of college and university scholars in what are called the "academic disciplines." While one might expect this group, because of their intellectual attainments, to recognize the inadequacy of a patchwork approach to the improvement of education, this has not typically been the case. Instead, the representatives of academic disciplines behave as though they consider it necessary to "defend" in an entirely parochial manner the emphasis on, and time devoted to, their particular disciplines in the lower schools. At the same time, few members of this group have managed to attain the degree of intellectual objectivity towards education which enables them to see the problem whole.

The Persisting Problem of Educational Quality

The quality of our educational system is inadequate, and should be vastly improved. It is inadequate because it does not come close to meeting the goals which we as Americans have assigned to it, and which we have reaffirmed over a period of many years of our existence as a nation.

There is little disagreement about the goals of our educational system. We want it to make possible the development, through learning, and to the maximal possible degree, of the capabilities of each human individual in such a way that he can (1) pursue a satisfying lifetime occupation, (2) act as a responsible citizen of a free society, and (3) seek and enjoy esthetic pleasures. Perhaps not every country in the world has these same goals for its educational system. But these are ours, and they are widely accepted throughout our nation. We may not agree, though, on a means for achieving them.

Our system of education in its present form is very old. Of course, its operating structure has changed somewhat; we have changed from one-room schools to multiple-classroom schools, from small rural school systems to large city school systems. But these are the externals, not the essentials. And there have been very few changes indeed in the curriculum of the schools, or in the manner in which instruction is conducted, for a great many years. It is true that certain changes in emphasis have occurred in response to the heavy and prolonged pressure of certain reform movements. We no longer emphasize the classical languages; the progressive education movement brought about an increased attention to the socialization of the child; curriculum mathematics and science have been brought more nearly into accord with modern theory in the basic disciplines. Nevertheless, an adult of age 60 sees little change of a basic nature in public school classes when compared with those of his own childhood.

The fact seems to be that the fundamental structure of what is taught in the schools, as well as how it is taught, was determined many years ago. Perhaps at that time the relation between the learning that went on in the school and the goal of developing a competent adult person had a clear rationale. However, we can no longer be confident that this is the case today. Young people in college, and increasingly in the high school, are raising the issue of *relevance.* The fact that they are able to perceive the irrelevance in their instruction means that those adults who are responsible for operating the educational system should have seen it long ago. Nor does it seem that the charge of irrelevance can be lightly dismissed by saying that students do not know what *is* relevant so far as their own education is concerned. While this is likely true, the accusation of irrelevance nevertheless remains as an important characterization of the educational system, and it raises the most fundamental issues about the quality of education.

There are several broad trends which give indications of the inadequate quality of our educational system. First is the relatively low level of competence of graduates of the system in those basic communicative skills which make possible continuing and life-long learning. Symptoms of this inadequacy may be seen on all sides. Many high school graduates fail to continue to learn from reading, but fall instead into habits of passive enjoyment of pictorially-presented spectacles which make few intellectual demands. Many high school graduates are unable to multiply the fractional parts of units of measurement. Many are unable to construct the kind of oral communication which would inform a housewife how to adjust a television set. Many are unable to follow printed directions for making a claim against an insurance policy. When adults graduate from twelve grades of instruction with these basic inadequacies in their intellectual makeup, one can scarcely expect their lives to be enriched meaningfully by new learning experiences throughout adulthood.

Recently, the U.S. Commissioner of Education has called for an attack on illiteracy. It is noteworthy that this proposal is, once again, couched in the language of the "special program." No doubt we have in our country thousands of adults whose reading and writing skills are at the zero level. But we have 10 times as many thousands whose basic intellectual skills are so meager that they will not be able to, and certainly will not be inclined to, engage in the range of continuing learning experiences which will permit them to live full and satisfying lives. The need that is indicated is not so much for a special program of literacy, but for a fundamental improvement in the quality of American education.

A second indicator of poor quality relates to the lack of preparedness of young people to take a job or to enter an occupation. Employers in all walks of life are aware of, and often seem resigned to, the failure of the schools to prepare young people to enter occupations. Not only are basic communication skills weak or absent; the graduates of our high schools lack basic "entry" job skills, and must usually enter upon a training period supported by the industry or business itself. Further, they do not have an understanding of what "holding a job" entails, the responsibilities that go with it, or what it can lead to in terms of their own future careers.

Many portions of our society display unfortunate attitudes toward what is called "vocational" education, and this is surely one source of the difficulty. Many Americans "want their children to go to college". The aspiration is an admirable one, but it undoubtedly leads to a vast amount of mismatching of talents, and an equally great amount of wasted time and effort on the part of many students and teachers. Somehow, we must find a way of restoring the prestige of skilled occupations, of pride in workmanship, and of services well performed. Whatever means is found to bring this about must be accompanied by an equally strong effort to make education truly relevant to the pursuit of occupations which provide satisfying lifetime careers. Such education needs to be designed, not only to provide "entry" skills, but also to equip the individual to function as a productive person in all aspects of his life. If he is a television repairman, for example, his education must give him the means of becoming a most excellent television repairman, and of advancing toward future goals in this general area of work, leading to increased rewards and satisfaction which will continue to enrich his life.

There is still a third area of inadequacy symptomatic of poor educational quality, and this assumes greater urgency with every passing year. Graduates of our educational system are not well prepared to enjoy life by pursuit of satisfying leisure-time activities. The amount of leisure time is increasing. The quality of activities which fill that time appears to be suffering marked deterioration. There are many indications of this trend. "Spectator" activities have increased enormously, and "participant" activities have decreased accordingly. People are encouraged on all sides to become parts of mass audiences, as opposed to becoming members of teams or organizations which engage in activities designed for their own enjoyment. Solitary leisure-time activities, like walking and whittling, become increasingly difficult to undertake, when people are continually beset with the stimulation of auditory and visual "entertainment" through the mass media. There seems little time, and even less inclination, for many people to create things which are their own.

It is true, perhaps, that education cannot bear all of the blame for the deterioration of the esthetic quality of life. Yet it must be in large measure responsible for failing to give many high school graduates the basic intellectual tools necessary to design their own recreation, to organize their own participant activities, to compose their own music and art, to seek and find pleasures in their own ways of relating to natural surroundings, to enjoy works of their own creation. Lacking such tools, these graduates of our educational system participate in the trend toward increasing domination by "mass-audience" activities which quickly come to require a low level of intellectual involvement. Unless such a trend is reversed, in the face of increased leisure, more and more people will find themselves leading lives of not-so-quiet desperation.

All of these indications (and more could probably be added) are symptoms of inadequacy in the quality of education. They are signs that our educational system, which has changed little in its basic form for a hundred years, is failing to achieve the educational goals we have for it. They are signs that raise the issue of *relevance* as it pertains to the basic form and structure of American education. This is an issue which cannot be faced by undertaking special programs, either sequentially or by instituting several at once. It can be tackled only by engaging in educational developments which have a chance of effecting the most far-reaching kinds of change.

Efforts To Improve Educational Quality

There are current efforts to improve the quality of American education. Generally, they are well-intentioned, and they exhibit considerable evidence of success, within the constraining limits of the existing educational system. The doubt is that these efforts are intensive enough to bring about the improvement needed. Partly, this is because these efforts are not big enough, in terms of their financing. Perhaps more importantly, though, they are aimed at improving certain components, but not the basic structure of the system.

The Federal government has provided funds for basic research in education, for research and development centers, and for regional laboratories. All of these programs, considering each as a whole, appear to be accomplishing remarkably effective work. They are developing new knowledge of the process of learning, the nature of human abilities, the conditions of effective instruction, the content of student attitudes and values. They develop new courses, new curricula, new methods of instruction, new techniques of using audio-visual devices. They evaluate and disseminate new methods of organizing classrooms, new approaches to the training of teachers, improved procedures for teaching children to read and write. All of these innovative developments cost millions of dollars each year. And they are well worth the money.

However, if one considers the impact that this total effort has, it is apparent that it is not sufficient to improve the quality of American education in the manner that is needed. These research and development programs are, after all, a collection of special programs, aimed at particular symptoms of system inadequacy. They can do much, apparently, to "correct the symptoms", but their effect on educational quality will not be great. They are likely to improve the components, but the system will remain as impervious to change as it has been for many decades.

Considerable resistance to change, even change in components, is evident. The administrators and teachers who operate the system of education do not like research, development, and dissemination efforts unless they can see some direct benefits from them to their own personal jobs or status. Naturally enough, they are interested in preserving things as they are, and feel threatened by any changes suggested by research and development efforts which potentially affect their roles, their status, or the security of their jobs. In large measure, this set of attitudes may be responsible for the continual disparagement they offer of the value of research and development efforts. Educational practitioners often say, in effect, that research and development are irrelevant to their activities. This is a defense which people who perform research and development work consider a rationalization, reflecting the hope that they will "go away". The grain of truth contained in the charge of irrelevance may be that many research and development products cannot be put to use unless the system itself changes in major ways. Meanwhile, a considerable reservoir of knowledge representing research and development outcomes remains "on the shelf"—knowledge which could be used to build a more effective system.

Ways of Improving the Quality of Education

How can the quality of American education be improved? What kind of effort will it take? How can concerned citizens work for such a change? What must be done at local, State, and Federal levels?

The major outline of the answer must lie in this: *We must make possible the establishment of alternative modes of conducting education.* This means that we must create conditions which permit new systems of education to arise and flourish; we must allow our national ingenuity to form and maintain new varieties of educational institutions. Some of the possibilities are as follows:

1. *Community-managed schools.*—Some of these are already in existence, but they are having a hard time under current conditions. The ones which have made the headlines have grown up in inner-city areas, in response particularly to the aspirations of black people; they have naturally run into much resistance on the part of the educational establishment. But "black" schools are not the only community-managed schools, or they need not be. It is ironic that we as Americans pride ourselves on "local control" of schools. Yet we do not really permit local control; instead, we do what we can to starve local schools out of existence. In a fundamental sense, local schools should be designed to provide the kind of education a local community wants to have. If controls are exercised, they should be on the outcomes of education, not on the manner in which it is conducted.

2. *Privately-run schools.*—We have had private schools for many years. Some of those which are in the business of college preparation are old and distinguished. In addition, we have permitted schools to be established to pursue aims related to particular religions or sects. Why can we not have private schools which have the special purpose of educational quality? Such schools would not be for the education of the rich, and would not confine themselves to a college-bound segment of the population.

They would have well-defined goals, perhaps specializing in certain areas of the curriculum. Standards of quality would be maintained, as they are in many other areas of our lives, by competitiveness in developing quality "products", in other words, graduates.

3. *Schools with differentiated purposes.*—It is entirely conceivable that educational quality could be improved by encouraging the establishment of a greater variety of types of schools, with a greater variety of purposes, in contrast to the standard classroom school with standard curriculum. Perhaps we need schools for goof-offs, schools for those who love nature, schools for people who like to work with their hands, schools for people who want to be scientists. Such schools with differentiated purposes already exist, of course, but not in great numbers nor in great variety.

4. *Education without schools.*—A number of educational arrangements can be conceived which would not use the school at all, as it is currently understood. As an example, there could be an "educational center" for a community, having the function of guiding students into routes of instruction, and assessing their progress upon completion of units of learning. Combined with this could be a system of instruction using television, delivered to the home or to student study stations at some distance. Provision could also be made for participation of students in group activities devoted to particular purposes (for example,

ordering a meal in French; shopping economically in a supermarket). Such a system is technically feasible, although it would require a developmental effort to put it into operation.

5. *New modes of instruction.*—Whether within or outside of school buildings, a greater variety of modes of instruction should be given a chance to improve educational quality. Instructional television can be used as the core of one mode, but many others are possible. Actually, a number of types of new equipment, tape recorders, slide projectors, copying devices, could be incorporated into systems of instruction which, without conforming to existing customs, could be designed to heighten the effectiveness of instruction and learning. In view of current and impending shortages of teacher manpower, one of the most appealing new modes would use students to perform instruction throughout the system. Of course, such a system would need to be preceded by a developmental effort devoted to materials and procedures. But it is feasible. Nothing is holding it back except tradition and the educational bureaucracy.

Several possible new modes of education, then, are readily conceivable and possible to establish in the interest of improving the quality of American education, an improvement which seems unlikely to come about within the framework of our existing system of public education. What we can ask our legislators to do is to formulate and support measures which will increase the number of alternative modes of education, so that greater diversity is achieved, and the native ingenuity of concerned citizens is challenged. To move in this direction, experimentation and research should surely be encouraged, so long as its aims are to diversify, rather than to patch what has shown itself to be an inadequate system.

Programs for the Seventies

Presumably, education must be supported and subsidized by Federal and State funds, as it is now to a large extent. What kinds of legislative and executive programs of action will bring about fundamental improvements in American education?

First, there must be a means of providing freedom of choice of educational goals to the individual and the family. Why not move towards the subsidization of individuals who are engaged in pursuing an education, rather than the support of institutions? This would mean, presumably, a vastly expanded program of *scholarships* based upon needs and extending perhaps down into early years of an individual's life. Alternatively, such a purpose could perhaps be met by *income tax deductions*, again related to financial need. These ways of supporting education would restore freedom of choice to individuals, families, and local communities. Allowing the individual to choose his education would presumably lead to greater variety and diversification of the modes and methods of education. It would create a great surge of demand for continually improving the quality of education.

Second, in any such system of pluralism in education, means must be provided to protect the consumer, just as is the case in other fields. This means that one would need to establish *educational standards* which are applicable to the great variety of objectives which might become a part of any individual's program of study. Note, however, that it is the parts which need to be measured against standards, not the program as a whole. No one wants a "standardized program"; the proposal of parts whose quality is measured against standards is specifically designed to make possible the widest latitude in choice of these parts, as well as in the means of attaining them.

Standards of educational quality are feasible to develop, and an enterprise of development and continued refinement of such standards represents a broad-scale program deserving of Federal support. Such measures of quality must be *indicators of output, or product.* What the consumer of educational services is interested in is what specific kinds of learned capabilities will result from participation of the student in the educational program he is about to choose. (It is apparent, incidentally, that the "standardized achievement tests" which are currently so widely used will not adequately perform the function of measuring educational outcomes; they do not tell us in specific terms what is measured, and consequently cannot be directly used to indicate educational quality.)

In addition, there must presumably be a governmental agency which *monitors the assessment of quality*, so that it is done with complete fairness, objectivity, and impartiality. The further function of such an agency would be to *keep the consumer informed.* This means that the student or his family would be able to know for any educational institution, before a choice were made, that certain kinds of outcomes might be expected.

Is it not consistent with our national goals and traditions, to try to establish an educational system which offers the greatest possible number of alternatives to the individual, to the family, to the local community? Many kinds of goods and services are offered to us in this way, and we are inclined to admire the quality of "product" which results. Because we believe in education for all is no reason for the further belief that all education has to be of uniformly poor quality. We need a system which offers many alternatives, embodied in institutions which in their various and different ways are striving for excellence in educational products.

THE PARAPROFESSIONAL AND EDUCATIONAL NEEDS OF THE SEVENTIES

Alan Gartner, Associate Director, and Frank Riessman, Director, New Careers Development Center, New York University, New York, N.Y.

From 1957 to 1967 the number of public elementary and secondary teachers rose from 1,199,000 to 1,788,105, an increase of about 589,000 or 49 percent.[1] Though the demand for elementary and secondary teachers in the next decade will not be so dramatic—due to assumed lower fertility rates and a slow-down in growth of school-age populations—still an estimated 1,379,000 new teachers will be needed in the period 1970–77. (See Charts 4 and 6 for graphic illustration of the demand for new teachers to 1977.)

Though the teacher shortage, which has been critical in recent years, is currently much less acute and will lessen even more in the 1970's, the National Education Association reported an estimated shortage of

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[1] This introductory section is based on material developed by Mrs. Nina Jones.

264,750 qualified beginning teachers for school year 1969–1970, in spite of increasing applications for teaching jobs across the country. State department of education officials in 49 States were able to report their assessment of how the total number of qualified applicants compares with the number of teaching position vacancies in late July 1969 as follows:

2 States—substantial shortage of applicants.
12 States—some shortage of applicants.
32 States—shortage of applicants in some subject areas and an excess in others.
1 State—sufficient applicants to fill positions.
2 States—some excess of applicants.

Thirteen States reported an increased demand for teachers for reasons including the following:

11 States—increased school enrollment.
9 States—reduction in class size.
7 States—new positions resulting from Federal legislation.
2 States—larger number of teachers not returning to their positions.

All but three States reported having a shortage of applicants in rural areas; 2 reported a shortage in small cities; 16, a shortage in central cities or large urban centers; and 7, a shortage in suburban areas.

School systems report having extreme difficulty in filling the following assignments (most frequently listed by 47 States reporting this information): elementary-school librarian, 21 States; special education, 20 States; industrial arts, 18 States; mathematics, 16 States; special assignments in remedial reading, speech correction, etc., 16 States; special assignments directed to educationally disadvantaged children, 16 States; elementary-school guidance personnel, 13 States; women teachers of physical and health education, 12 States; natural and physical sciences, 10 States; and trade-industrial-vocational-technical subjects, 9 States. The most frequently listed assignment areas in which the 47 States expect school systems generally will have to employ persons with substandard qualifications are special education, 21 States; elementary-school librarians, 17 States; mathematics, 16 States; and secondary-school librarians, 14 States; special assignments in remedial reading, speech correction, etc., 12 States; guidance counselors, 12 States; and industrial arts, 10 States.

The most significant projection of the demand for manpower in education comes from a study by Leon H. Keyserling, *Achieving Nationwide Educational Excellence: A Ten-Year Plan, 1967–1977, to Save the Schools*. The study finds the greatest need for immense expansion of nonteacher instructional staff, a term which excludes people involved in the administration, operation, and maintenance of plant facilities and others not involved in instruction, e.g. school aides.

> All told, in 1967, there were only about 188,000 nonteacher instructional personnel in our public schools, or about one for every 229 pupils. It seems obvious that their effectiveness is hampered because of the very large number of pupils each must serve on the average. The adverse impact upon the pupils themselves is equally obvious. These staff deficiences must be rectified, through engaging more persons to (1) bring work-loads into more reasonable alignment with existing and growing

> enrollments, and (2) to permit specialized personnel, in conjunction with classroom teachers, to meet the challenge confronting the public-school system.
>
> To fulfill these objectives, this study projects an over-all pupil-instructional staff ratio of 12 to 1 by 1977 . . . [with] nonteacher instructional personnel averaging one for every 30 students.

Chart 5 shows the tremendous increase in nonteacher instructional staff projected for 1977 by the Keyserling study. By 1977 this group should rise to 1,142,000, based on achieving a ratio of one to every two teachers. The increase in the number of such personnel will increase at a rate of 46 percent each year from 1970 to 1972, and increase 28 percent annually for the next five years.

The data in the Keyserling study, as the author notes, is based upon certain assumptions regarding pupil population, school services, and pupil-instructional staff ratio. The pressure for increased staff is exemplified by three recent events: the call by American Federation of Teachers President David Selden for a teaching schedule of no more than 20 classes per week with no more than 20 pupils each; Selden's announcement that the AFT will seek a four-day work week for teachers; and the hotly fought bargaining election, won by the United Federation of Teachers, for the right to represent New York City's paraprofessionals, as well as organizing activities in Baltimore, Chicago, Newark, and elsewhere.

In light of these projected needs, a series of questions needs to be considered: (1) What are the current developments vis-à-vis the use of paraprofessionals? (2) What is the effect upon pupil learning of the introduction of paraprofessionals? (3) How does the use of paraprofessionals relate to the increasing concern for community participation in the schools? (4) What part should career advancement programs play in the introduction of paraprofessionals in education?

Current Developments

This past year has seen a significant acceleration of new careers in the public schools:

The implementation of the first legislation in education (indeed in any of the human services) which provides a comprehensive approach to personnel development, the Education Personnel Development Act. In particular, the launching of the Career Opportunities Program.

The utilization of more than 200,000 paraprofessionals[2] across a broad spectrum of activities.

The consequent consideration in many states of the role, responsibilities, and regulations pertinent to the use of such personnel. Several State departments of education and State boards of education have issued policy statements and guidelines; the California legislature enacted "The Instructional Aide Act of 1968."

The major involvement of the organizations of the teachers, the National Educational Association and the American Federation of Teachers, in these programs. And the finding of the NEA Research Division that teachers identify how to work with aides effectively as their Number One training need.

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[2] No single adequate term has been designed to describe those who, lacking formal credentials and/or the traditional training, perform various functions in the human services such as health, education, and welfare programs. For want of a better term we will generally use paraprofessional, although interchanging it with auxiliary personnel (favored in several Eastern states) and the general term, aide, or teacher aide. It is interesting to note that the persons who occupy these positions have come to call themselves new careerists and new professionals (see New Careers *Newsletters*, New Careers Development Center, School of Education, New York University, Fall, 1968), while the Greenburgh, N.Y. schools call them "helping teachers."

The proliferation of materials, guides, and audio-visual aides to assist in the implementation of programs.[3]

There are currently about 200,000 teacher aides in the United States. The Parent-Teacher Association magazine estimates that by 1977 the number may grow to one and a half million. The bulk of the literature on the use of paraprofessionals in schools has focused upon their activities in the classroom, their selection, training, and the question of the effect of their use upon teacher activities and upon the aide himself. We will focus on several less emphasized areas which must be addressed: (1) the relationship of the use of paraprofessionals to pupil performance; (2) the connection between the use of paraprofessionals and such dominant issues of contemporary education as local control, decentralization, and community participation; and (3) the importance of career advancement programs as an essential component of the use of paraprofessionals.

Pupil Performance

A study conducted for the U.S. Office of Education of all compensatory programs for the disadvantaged reported on between 1963 and 1968 found that of the 1,000 programs examined, only 23 were found to have yielded "measured educational benefits of cognitive achievement." Eleven of these involved the use of paraprofessionals. The time lag in reporting programs means that most of the reports were for programs operating prior to 1967, when the use of paraprofessionals was only beginning to play a major role in the schools.[4] But the report is at best suggestive because we do not know how many of the unsuccessful programs utilized paraprofessionals nor what other factors may have accounted for the success of the 11 programs in which they were used.

Recent studies in Indiana, Minnesota, Colorado, and New York indicate more specifically the effect on pupil learning of the use of paraprofessionals in the classroom. In Minneapolis, pupil learning—as measured by pretest pairs using the Metropolitan Reading Readiness Test given at five-month intervals to 234 children—*was 50 percent greater in kindergarten classes with a paraprofessional than where there was no aide.*[5] Similar gains were shown in reading readiness and number readiness.

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[3] Among recent publications, especially useful are four products of Bank Street College of Education, *An Annotated Bibliography on Auxiliary Personnel in Education,* 1969; *New Careers and Roles in the American Schools* (Bowman and Klopf, 1969); a provocative film, "Teams for Learning," along wtih several film clips and a Discussion Guide for use with the film and clips. Also several publications of the New Careers Project, University Research Corporation, Washington, D.C.; the comprehensive self-instructional training system for teacher aides developed by Scientific Resources, Inc., Union City, New Jersey, and published by Macmillan; "Paraprofessionals; The Effect on Children's Learning" (Riessman and Gartner, October, 1969), New Careers Development Center, New York University, New York City, N.Y. The materials distributed at the National Conference on Paraprofessionals, Career Advancement, and Pupil Learning, co-sponsored by TEPS–NEA and the New Careers Development Center, New York University, includes descriptions of a score of exemplary programs.

[4] American Institutes for Research, "A Study of Selected Programs for the Education of Disadvantaged Children," Palo Alto. California, 1968.

[5] Minneapolis Public Schools, "Teacher Aide Project," Minneapolis, Minnestota, 1968.

In Greenburgh, N.Y., performances of second-grade classes with an aide were compared with similar classes the previous school year which had no paraprofessionals. The measuring instrument was the Metropolitan Achievement Test. The number of classes scoring above grade level increased from two to five, and those scoring below grade level decreased from five to four. The project's director states that the introduction of the teacher aide was responsible for this achievement test outcome.[6] And in Greeley, Colorado, in a Title III, ESEA program, where demonstrable pupil performance gains were achieved, the teachers attribute these gains primarily to the introduction of paraprofessionals.[7]

A study conducted by Greenleigh Associates for OEO to ascertain the most effective remedial reading program found that in each of the systems tested the most effective teacher was a paraprofessional, as compared with a regular teacher or a certified remedial reading teacher.

A study conducted by the Psychology Department of Indiana University on a tutoring program where paraprofessionals (trained for a total of 21 hours) are successfully tutoring first-grade children 15 minutes a day, five days a week, in some 50 projects in 12 states, has shown decisive improvement in the reading performance on the part of the children.[8]

Parent Educators

A Florida program that trained 15 women to work with preschool children has produced marked effects upon the children's development of a variety of skills. The project, "Early Child Stimulation Through Parent Education," conducted at the College of Education, University of Florida, under a HEW Children's Bureau research grant, found "that this type of program does have a clear payoff in enhanced development of the infants whose mothers are reached in their homes." The "parent educators," themselves "disadvantaged," worked with nearly 300 mothers and their children. The major work of the "parent educators" was instructing the mothers in a series of stimulation exercises designed to provide physical, intellectual, and social stimulation for the children whose ages ranged from three months through two years. On standard measure of assessment (the Griffiths Mental Development Scale), the children whose mothers were so trained performed better on all scales—locomotor, personal-social, hearing and speech, eye and hand, and general performance—than did those in a matched control group whose parents did not receive this training.[9]

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[6] Project description in material distributed at the National Conference on Paraprofessionals, Career Advancement, and Pupil Learning, January 9, 1969.

[7] PACE, Weld County School District, "Exemplary Education for Early Childhood," Greeley, Colorado, July 1968.

[8] Project description in material distributed at the National Conference on Paraprofessionals, Career Advancement, and Pupil Learning, *op. cit.*

[9] New Careers Newsletter, Vol. III, No. 2. To test the hypothesis that the mere social reinforcement of the presence of a visitor in the home might have some effect on the motivational pattern of the mother and thus on the behavior and development of the child. The researchers compared those who were visited monthly by a Visiting Nurse and those who did not receive such visits; these included equal numbers of persons from the group who received the stimulation training and the control group. The study found that there was no significant difference between those who received the nurses' visits and those who did not.

A New York City program, STAR (Supplementary Teaching Assistance in Reading), used paraprofessionals to train parents to read to their children. Studies done of the youngsters (first grade pupils from predominantly Puerto Rican families whose teachers identified them as likely reading failures) found that the children whose parents were trained one hour per week during the school year to read to them scored higher in nine different reading tests than did a control group of matched children who received two hours of remediation per week from professionals. Reading scores, it is true, are a limited measure of pupil performance. Also, the gains cited were not of major magnitude. There needs to be careful study of the impact of paraprofessionals upon a broader spectrum of pupil activities, including the critical component of youngsters *learning how to learn.* Here the utilization of children in teaching roles may have marked effect.

Students as Teachers

The New York Board of Education reporting on a Mobilization for Youth program in which older children (themselves poor students) tutored younger children with reading difficulties, states that over a five-month period those tutored gained 6.0 months compared to a control group's gain of 3.5 months, while the tutors gained an extraordinary 2.4 years compared to a control group gain of 7.0 months. *A leap of this magnitude is the order of achievement that must be striven for in the introduction and use of paraprofessionals.*

The students as teachers model is carried one step further by the Youth Tutoring Youth project operated by the National Commission on Resources for Youth. This project utilizes community residents as program supervisors in an endeavor to improve the reading of underachievers.[10] Here, as in the STAR program, these paraprofessionals play an indirect role in improving the learning of children. The program, now functioning in some 15 cities, shows that 14- and 15-year-old Neighborhood Youth Corps youngsters who are underachievers in school successfully tutor elementary school children who are also reading below grade level while, at the same time, sharply improving their own school performance. There is a leap in learning in the person doing the teaching. The principle here is that people learn best through teaching.

Mechanisms

There are probably a number of mechanisms whereby the paraprofessional improves the educational achievement of children: (1) the teacher is freed to spend more time teaching; (2) there is more individualized teaching and learning, a decentralizing of the classroom; and (3) a second adult gives the child an alternate person to relate to, to work with, and to serve as a model.

There is a growing body of data which indicates that paraprofessionals allow teachers time to give more individualized attention to children, to spend more time in preparation both in school and at home. The fact that the teacher's audience now includes another adult appears to encourage greater preparatory efforts on the teacher's part.[11]

Much more needs to be done in the way of research and evaluation. An Oregon project funded by the Office of Education's Division of

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[10] New Careers Newsletter, Spring 1969, see "Learning Through Teaching—A Basic Principle for All," regarding pilot program operated by the National Commission on Resources for Youth, "Youth Tutoring Youth," as part of a Neighborhood Youth Corps Demonstration Project.

[11] *Teacher Aides: Handbook for Instructors and Administrators,* University Extension, University of Wisconsin. Madison, Wisconsin, 1968.

Vocational Education, Bureau of Research, examining both the costs and benefits of utilizing paraprofessionals and the relationship between the two, points toward a necessary area of study. However, the illustrations presented here, representative of many others,[12] indicate that aides can have an impact upon pupil learning and that their continued use and further training may have an even more powerful effect.

Community Participation

The call for greater control of our schools—and other human service agencies (health programs, welfare, police, etc.)—is mounting through the country.[13] Ghetto parents, only recently maligned as apathetic and unconcerned, are now demanding that schools which have not taught their children must now come under their control in order to make that happen.

The gains in school-community relations, in introducing into the school the mores and culture of the community, in improving the quality of what takes place in the school, are all too obvious to need belabored argument. From the perspective of the school, the employment of community people can provide a new and powerful link with the community, can meet present staff shortages, and if the anticipated increase in available teacher manpower does occur, provide the means for a marked decrease in pupil-teacher ratios and thus increase the opportunities for more individualized instruction. Further, the employment of paraprofessionals contributes to the development of a differential staffing pattern for the schools, one of the important new developments in education.[14]

From the point of view of the community, the introduction of paraprofessionals brings its people into the school in a participating and essential manner. Where the training and education essential to a career advancement program take place, the paraprofessionals from the community gain skills and ability, thus building the human resources of the community, an essential need of the ghettos and barrios of America. The director of a small community-operated (and supported) school in Roxbury, Massachusetts, describes the relationship of the community person and credentialled professional as follows:

> At the Highland Park Free School the community teachers realize that the school is their thing. They are the people who have their children in this, their school, so therefore it is also their classroom. They organize the classes, they organize the parents of the youngsters in their classes, and the so-called certified teacher is the technician who is coming in to provide the kind of skills that are necessary in order to have a good functioning classroom. . . . It is a dual sensitizing process: There are many persons who feel that black youngsters can't learn, or that there is a level beyond which they cannot go. How do you get the lid off?

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[12] See *New Partners in the American School: Study of Auxiliary Personnel in Education*, Bank Street College of Education, 1967; also, Bowman and Klopf, *New Careers and Roles in the American Schools;* Bank Street College, 1969; Gertrude Noar, *Teacher Aides at Work*, National Commission on Teacher Education and Professional Standards, NEA, 1967.

[13] "The Annual Education Review," *New York Times*, January 9, 1969, identified the pressure for such control as the number one issue of urban education.

[14] See Dwight Allen, "A Differentiated Staff: Putting Teacher Talent to Work," *The Teacher and His Staff*, Occasional Papers No. 1, National Commission on Teacher Education and Professional Standards, NEA. See also the description of the three-level classroom staff in Macon County, Alabama, described in the material distributed at the National Conference . . . *op. cit.* A danger to be recognized is that a hierarchy of staff in the school does not necessarily mean either that the work of the school will be re-examined (for the same old tasks may simply be apportioned out among more people) nor that there will be a career progression for persons to move from one level to another, both essential factors, we believe, in the reform of the school system. A recent article, "Staff Differentiation," *CTA Journal*, January, 1969, gives some recognition to career advancement issues but not to the connection with the community.

> There are some black people who feel that they are incapable of learning—adults and children—and how do you get them to stop feeling that whites are superior?[15]

Career Advancement

While thousands of schools have adopted the use of paraprofessionals to work both within and outside of the classroom, far fewer have made their employment a part of a career advancement system. By this we mean a system where a school system develops an occupational tract (or tracts) beginning with entry-level workers lacking formal education and training, and provides opportunity for step-by-step advancement. This demands both fixed line items in the school budget for each step, as well as training and education built into the employment situation. Although Title I, ESEA, perhaps the largest single source of support for the employment of paraprofessionals,[16] does not require such a career advancement system,[17] more recent legislation does—for example, the Education Professions Development Act (see especially Sections 518 and 531), along with its administrative guidelines provides for such a program. And when Associate Commissioner Don Davies announced the Office of Education's new "Career Opportunities Program," [18] he emphasized that the guidelines would stimulate school districts to incorporate a career ladder. Similarly, many of the recent guidelines issued by various departments of education encourage and support career advancement systems.[19]

The introduction of a career advancement system produces many potential benefits. It provides a "training set" for school personnel, a view that individual development and learning do not stop at college graduation but that the school is a place where teachers as well as students are involved in growth and learning.

What are the dangers in these new trends and how can they be countered? 1) There is the danger that the paraprofessional will be absorbed by the educational establishment to provide more but not reorganized or different education. 2) The system will remain intact, co-opt and simply utilize the aides as one-way communicators to explain to the community what it must understand about the school rather than to explain to the school what it must understand about the community. 3) The schools may "cream," may select only special types of people from the community to become teacher auxiliaries, thus failing to bring representative members of the community into the life of the school, their voice and demands. 4) The paraprofessionals and the teachers working with them will fail to learn from each other. 5) There would be no new routes developed for teacher auxiliaries to move up to become assistant teachers, associate teachers, and teachers while working on the job during release time. 6) The tasks of the teacher would be redistributed but there would be no new forms of instruction, no reorganization of the school. 7) Teachers, relieved of some of their traditional chores, would not be stimulated or trained to provide a higher level of teaching, of classroom management function, but would simply take it easier as a result of their new assistants in the classroom. 8) There would be a new hierarchy of differentiated tasks without careers. 9) New careers for poor people would be created but education would not be improved, organized, and restructured. 10) Most important, the new careers movement may not be thoroughly integrated with the other significant movement of our time, the reorganization of the human services to increase their accountability to the consumer, the new black demands, the new self-criticisms of the professions, the youth movement, the student movement, and the new organizations of the paraprofessionals.

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[15] Contained in materials distributed at the National Conference . . ., *op. cit.*

[16] It is interesting and somewhat contrary to the general impression on such matters to find that in California in the Local school districts where teacher aides are being used, over 60 percent used some Local school funds, about half some State money, nearly 70 percent had Federal funds, and about 10 percent other sources such as foundations, PTA's, service clubs, etc. "Salaries Paid Teacher Aides in California School Districts, 1967–68," Research Bulletin 227 (October, 1968), California Teachers Association.

[17] A 1967 amendment to ESEA, Title I, does require, however, the training of both the teacher and the aide, at least some portion of which is to be joint training.

[18] "Education Professions Development Act: Facts About Programs for 1970–71," Office of Education, May, 1969.

[19] See, for example, "Guidelines for Career Development of Auxiliary Personnel in Education," State Department of Education, New York (June, 1968); "The Use of Teacher Aides in Colorado," Colorado Department of Education. (September, 1968).; "Paraprofessional Personnel, A Position Statement," Department of Education, State of Minnesota (June, 1968); "Auxiliary School Personnel: Their Employment and Utilization," Rhode Island Department of Education (February, 1969); see also, "Teacher Certification and Preparation in Massachusetts," Massachusetts Advisory Council on Education (June, 1966).

TABLE I.—ESTIMATED DEMAND FOR CLASSROOM TEACHERS IN REGULAR PUBLIC ELEMENTARY AND SECONDARY DAY SCHOOLS: UNITED STATES, FALL 1962–77[1]

Year (fall) (1)	Total teacher demand (2)	Demand for additional certificated teachers: For enrollment increase (3)	For teacher turnover (4)	Total (5)
1962	1,507,552			
1963	1,577,777	70,225	120,604	190,829
1964	1,648,184	70,407	126,222	196,629
1965	1,710,319	62,135	131,855	193,995
1966	1,789,238	78,919	136,826	215,740
1967[2]	1,854,700	65,462	143,139	208,601
1963–67		347,148	658,646	1,005,794
A. INCLUDES EFFECT OF ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965				
ACTUAL				
1965	1,710,319	62,135	131,855	193,990
1966	1,789,238	78,919	136,826	215,745
1967[2]	1,854,700	65,462	143,139	208,601
PROJECTED[3]				
1968	1,910,000	55,000	148,000	203,000
1969	1,942,000	32,000	153,000	185,000
1970	1,968,000	26,000	155,000	181,000
1971	1,985,000	17,000	157,000	174,000
1972	1,994,000	9,000	159,000	168,000
1968–72		139,000	773,000	912,000
1973	2,006,000	12,000	160,000	172,000
1974	2,014,000	8,000	160,000	168,000
1975	2,024,000	10,000	161,000	171,000
1976	2,035,000	11,000	162,000	173,000
1977	2,044,000	9,000	163,000	172,000
1973–77		50,000	806,000	856,000
B. EXCLUDES EFFECT OF ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965				
ESTIMATED[4]				
1965	1,683,000	35,000	132,000	167,000
1966	1,724,000	41,000	135,000	176,000
1967	1,767,000	43,000	138,000	181,000
PROJECTED[4]				
1968	1,810,000	43,000	142,000	184,000
1969	1,842,000	32,600	145,000	177,000
1970	1,868,000	26,000	147,000	173,000
1971	1,885,000	17,000	149,000	166,000
1972	1,894,000	9,000	151,000	160,000
1968–72		127,000	734,000	861,000
1973	1,906,000	12,000	152,000	164,000
1974	1,914,000	8,000	152,000	160,000
1975	1,924,000	10,000	153,000	163,000
1976	1,935,000	11,000	154,000	165,000
1977	1,944,000	9,000	155,000	164,000
1973–77		50,000	766,000	816,000

[1] Includes full-time and part-time classroom teachers (in 1967, 98 percent of teachers in the public schools were full time). Does not include teachers in independent nurseries and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, schools on Federal installations, and other schools not in the regular school system.

[2] Preliminary data that include the effect of the Elementary and Secondary Education Act of 1965.

[3] The projection of classroom teachers in public schools, including the effect of the Elementary and Secondary Education Act of 1965, assumes an additional increase in classroom teachers of 109,000 each year over the number projected under the 1957–64 trend assumptions. This increase is based on 1967 experience as well as on the amount of funds available by provisions of the act.

[4] Estimated, using the 1957–64 trend.

[5] The projection, excluding the effect of the Elementary and Secondary Education Act of 1965, of demand for teachers in addition to those retained from the previous year was based on the following assumptions: (1) For enrollment increase, the number of additional teachers needed will be the difference between the projected number that must be employed in a given year to maintain the 1957–64 trend in the pupil-teacher ratio and similarly projected number in the previous year; (2) for teacher turnover, the number of additional teachers needed to replace those leaving the profession either temporarily or permanently will be 8 percent of the total employed in the previous year. The 8 percent separation rate is based on the Office of Education study "Teacher Turnover in Public Elementary and Secondary Schools, 1959–60."

The projected demand makes no allowance for replacement of teachers who hold substandard certificates (about 5 percent of employed teachers). For further methodological details, see appendix C.

Note: Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

Sources: U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) "Statistics of Public Schools," fall 1964 through 1967; (2) "Enrollment, Teachers, and Schoolhousing," 1957 through 1963. Reprinted from "Projections of Educational Statistics to 1977–78." United States Office of Education, Washington, 1969.

TABLE 2.—GENERAL CONDITION OF TEACHER SUPPLY AND DEMAND AS REPORTED BY STATE DEPARTMENTS OF EDUCATION PERSONNEL, 1966–69

General condition of teacher supply and demand	Number of States reporting condition as of fall—			
	1966	1967	1968	1969
(1)	(2)	(3)	(4)	(5)
Substantial shortage of applicants	20	19	5	2
Some shortage of applicants	11	14	17	12
Shortage of applicants in some subject areas and excess in others	8	11	19	32
Sufficient applicants to fill positions	0	1	1	2
Some excess of applicants	0	0	0	1
Valid appraisal not possible with present information	11	5	8	0
				1

Source: Reprinted from Preliminary Report: Teacher Supply and Demand in Public Elementary and Secondary Schools, Fall 1969. National Education Association, Research Division. Washington, September 1969.

TABLE 3.—NUMBER OF LARGE SCHOOL SYSTEMS REPORTING HAVING EXTREME DIFFICULTY IN FILLING POSITIONS AND NUMBER OF POSITIONS NOT FILLED IN LATE JULY 1969, SELECTED SUBJECTS

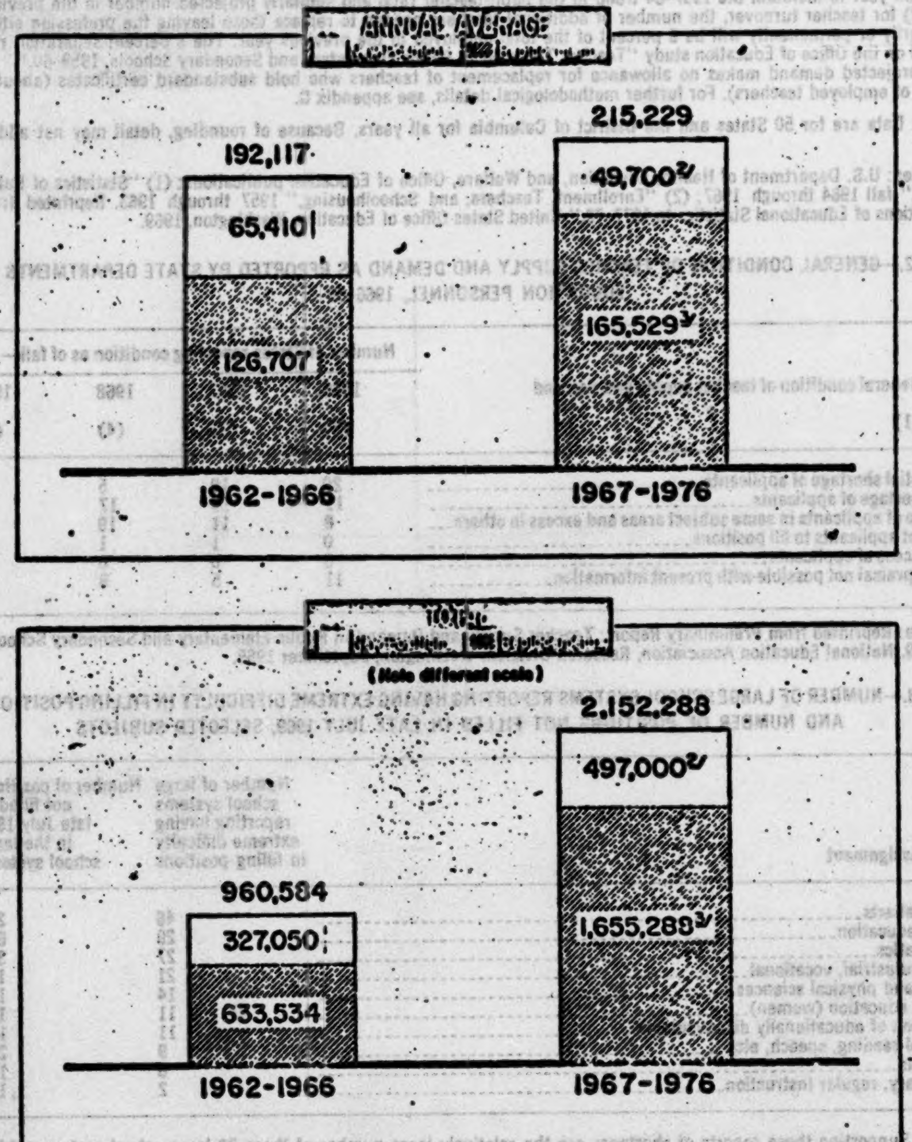
Assignment	Number of large school systems reporting having extreme difficulty in filling positions	Number of positions not filled in late July 1969 in the large school systems
Industrial arts	46	288
Special education	29	627
Mathematics	27	398
Trade, industrial, vocational	21	116
Natural and physical sciences	14	146
Physical education (women)	11	167
Instruction of educationally disadvantaged	11	194
Remedial reading, speech, etc	9	205
Librarians	8	123
Elementary, regular instruction	2	1,140

Note: Supporting these reports of shortages are the relatively large number of these 76 large school systems which report they have had to employ persons with substandard qualifications in these assignment areas for 1969–70: 15, industrial arts; 22, special education; 21, mathematics; 9, trade-industrial-vocational-technical courses; 12, natural and physical sciences; 6, women teachers of physical and health education; and 12, regular instruction in elementary grades.

Source: Reprinted from Preliminary Report: Teacher Supply and Demand in Public Elementary and Secondary Schools, Fall 1969. National Education Association, Research Division. Washington, September 1969.

CHART 4

DEMAND FOR NEW TEACHERS IN THE PUBLIC SCHOOLS
ACTUAL, 1962-1966, AND PROJECTED, 1967-1976[1]



[1] 50 States and D.C. Elementary (including kindergarten) and secondary public schools. Data relate to fall of each year.

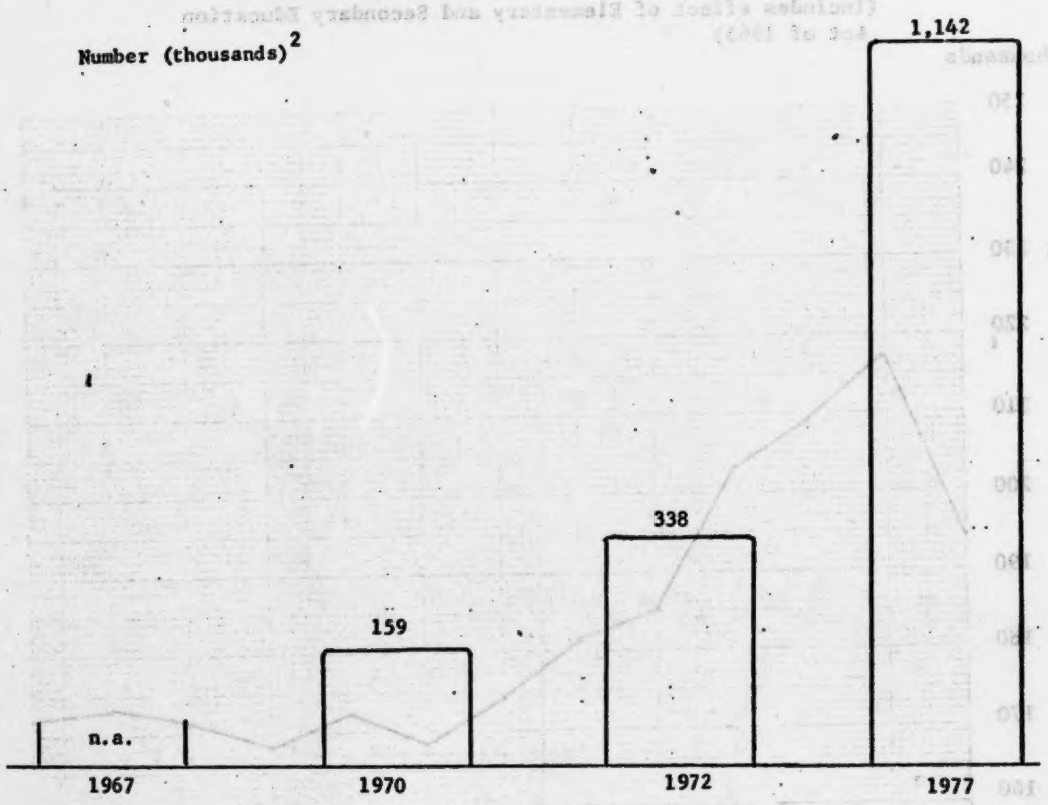
[2] Includes new teachers needed to meet enrollment increases plus those needed to achieve a pupil-teacher ratio of 20 to 1 by 1977.

[3] Includes new teachers to cover teacher turnover at 8% a year, and allowance (30,000) for that portion of those insufficiently qualified teachers in 1966 (90,500) not brought up to satisfactory standards by various methods and not within the 8% turnover.

Basic Data: Office of Education, Dept. of H.E.W.

Chart 5

Nonteacher Instructional Staff, Public Schools, '67 and Goals for 1970, 1972, and 1977[1]



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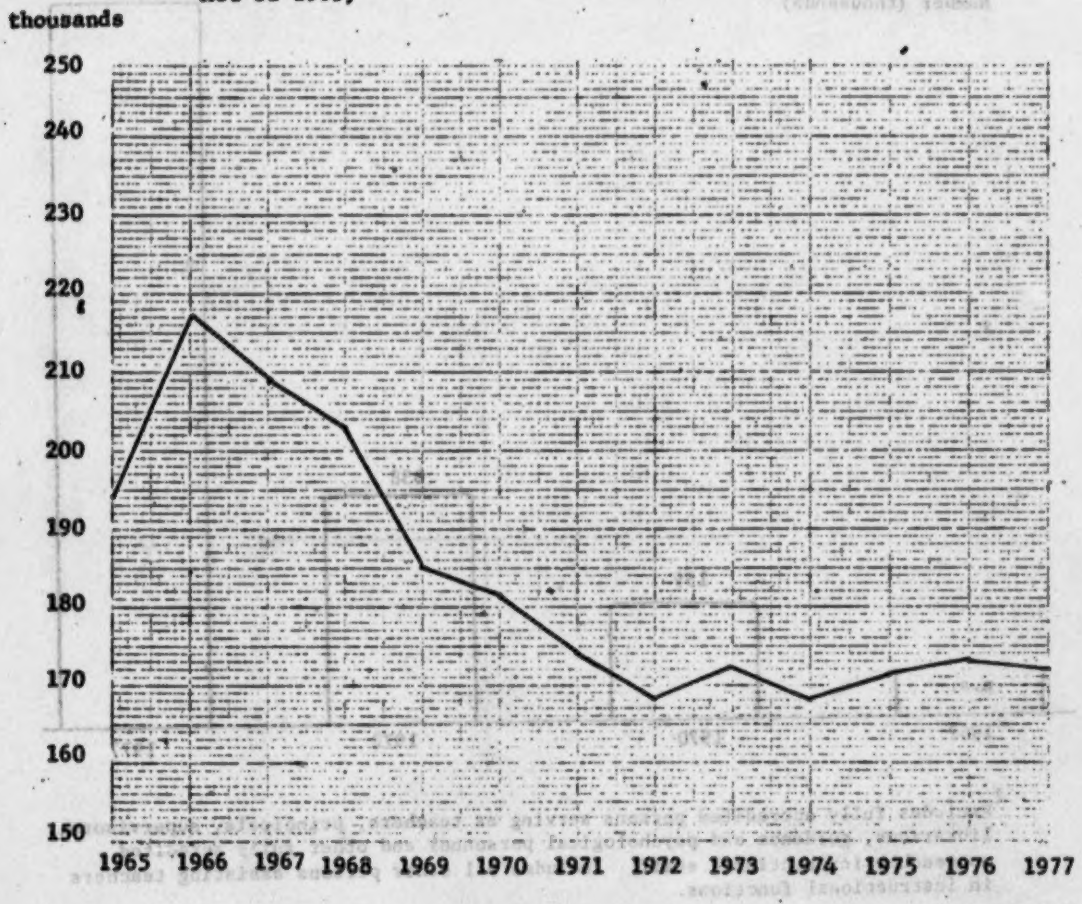
[1] Excludes fully accredited persons serving as teachers, principals, supervisors, librarians, guidance and psychological personnel and other fully acredited nonteacher instructional staff. Includes all other persons assisting teachers in instructional functions.

[2] Projected at higher growth rates in earlier years.

Reprinted from Leon H. Keyserling, Achieving Nationwide Educational Excellence: A Ten-Year Plan, 1967-1977, to Save the Schools. Conference on Economic Progress. Washington, December 1968.

Chart 6

Estimated demand for additional certified classroom teachers in regular public elementary and secondary day schools: United States, fall, 1965 to 1977 (Includes effect of Elementary and Secondary Education Act of 1965)



Source: United States Office of Education, Projections of Educational Statistics, 1977-78, Table 25.

EDUCATIONAL GOALS AND SCHOOL REFORM

Marilyn Gittell, Professor of Political Science and Director, Institute for Community Studies, Queens College of the City University of New York, Flushing, N.Y.

In the last decade we have witnessed an astounding change in the perspectives of the surveyors of the American educational scene. The surveyors themselves have changed, to include a broader range of academic disciplines as well as a wider representation from public groups. Ten years ago a political scientist, like myself, would hardly be called upon to make judgments in an area which cherished its privacy and boasted about its insulation from the political arena. Traditionally, Americans have placed great stock in education as the means for solving social and economic problems and one might, therefore, explain the current expanded interest in education by a broader spectrum of participants as a response to increased social crisis.

The scope and depth of concern also reflect the extent of the failure of education systems themselves to respond to needs and demands. The movement for educational reform in this era challenges the most basic assumptions of educational institutions in our society. It questions long-held commitments to bureaucratic centralization and the kind of professionalism which guarantees complete discretion for the educator in formulating school policies. It demands institutional and professional accountability and rejects the long-held principle that educational failure can be attributed to the individual child or his socio-economic background. Although there are still those who argue that the poor are incapable of learning, there is more general acceptance of the responsibility of education institutions to educate all the population.

In a relatively short period of time (which one can date back reasonably to the Supreme Court decision on school integration in 1954) we have had an outpouring of interest and analysis of public education unmatched in our history. Once pried open, the Pandora's Box of public education in America revealed a multitude of concerns. Formerly untouchable practices and unspeakable concepts are fair game for analysis and comment. What we have learned, and how we proceed to deal with it, will determine the future course of education and perhaps even the future course of the society itself.

This is not to suggest that we have in any way more than scratched the surface in gathering information on such questions as what alternatives of school governance would produce better educational policies or the fundamental question of what is the best or even better education policy. On the contrary, it is shocking to think that so many millions of dollars invested in educational research over the years have told us so little about how children learn. In fact, limited knowledge has fostered public policies which seek immediate solutions—expectedly with limited success.

A large segment of the education establishment offers the cure of more money to all our educational needs. Compensatory education would work with a large enough investment, we are told. Higher teacher salaries and reduced class size are traditional easy answers which sound reasonable enough. The research results at least dispel that lack of realism—these solutions are not solutions. All of our studies show *no* correlation between per pupil expenditure, class size, et al. to better performance. Yet it is disturbing that the lag between policy and information is so great that decisionmakers may be unknowingly following unproductive courses of action. Hard data tells us that teacher and student attitudes are the only input measured to date that do influence output. It is somewhere along these lines, the shaping of attitudes within the system that we are most likely to find some answers. More comprehensive exploration of solutions by a broader cross section of surveyors (who do not suffer from the constraints of the education profession) should bode well for increasing educational options and ultimately for finding more viable solutions. Even more productive, however, will be the increasing concern with defining educational goals and committing our society to an educational philosophy.

The essence of the solution may be found in the very process of defining educational goals. The danger, already evident, is in the great urge to resolve newly exposed problems by prepackaged all purpose remedies. Particularly in vogue are the programmed learning packages which by-pass the teacher and guarantee success. (Success, of course, is defined within the context of the program itself.) Reliance on this obviously narrow educational frame of reference can be another dead end. Like all short-range resolutions, it can be terribly appealing, particularly because it can also be used to answer the pressure for accountability. Professionals will be able to report progress within a limited time and within a program. Whether the success includes transference of knowledge or development of critical learning experience would be irrelevant under such limited goals. Evaluation of long-range impact could not be determined after commitments were made. We have come far enough in our insights into the problems to know that there are no easy solutions.

There are from my perspective two broad areas of concern in public education which are interdependent. These include education as a process, which involves the learner and the environment in which he learns, traditionally the concern of education as a discipline. There is also the whole area of education which relates to the process of formulating educational policy. The latter has been largely ignored over the years. Recognition of the interrelationships between these two areas is essential to translating aroused public interest and concern to more meaningful practice. The educational reform movement of this era puts considerable emphasis on the political context. It is a concerted effort to restructure the politics of education and to redistribute power in educational institutions as a means of effecting new policies. It seeks a greater balance between lay citizens and professional roles. I refer to the general movement towards decentralization and community control of schools. Although disparaged by some professionals as not relevant to the issue of educational content, it is the core of the problem.

Recent disclosures of the misuse and/or diversion of Federal Title I funds by local school systems is but one of many examples illustrative of the relevance of how policy is made and implemented to the accomplishment of educational goals. School professionals are not immune from responsibility. It was the school professionals, after all, who made the decisions which were in violation of Federal directives. And our research tells us that, for the most part, it is the professional who determines the allocation of resources and educational priorities in urban school systems. Too often, these policies are made out of public view and without public consultation and only rarely is anyone held accountable for failure. The process of decision making for public services in a democratic society demands that the public role be more direct and more pervasive than is presently the case in education. Bureaucratic stasis is yet another aspect of the same problem. Efforts to foster change in educational systems are constantly met by professional commitment to the *status quo*.

Restructuring the governance of education was, we should recall, the major thrust of school reforms in the early part of the century. The institution of the merit system solidified the power of the professionals. That structure and the internalization of school politics now appear to be resistant to adjustment. The dynamic of the democratic process, if it is to be functional, requires a constant reappraisal and adjustment of power within its institutions. In this era, the esconced professional may have to be dislodged to make room for new energy sources and new participants. Needless to say, the professionals have, on the record, been unable by themselves to effect solutions and their commitments to the institutions and the system which preserve their power and status must be recognized and dealt with. Professionals do not have any different commitments than any group which seeks to hold the power they have gathered to themselves. Their major effort is expended in keeping the system as it is and their struggle is against change. Revitalization of the governance machinery through expansion of role of the public will effect the search for solutions as well as the solutions, themselves.

Someone likened the educational needs of our society to a supermarket and the analogy, it seems to me, is an appropriate one. What we should be seeking is a broadening of choices and options rather than single solutions. Psychological research is plentiful enough to establish the great diversity of experience and personality in learners which should warrant differences in learning approaches.

Fundamental to the determination of education content and methods (if there be such a thing) would be a basic appreciation for differences. Thirty third-graders could hardly all want to read the same book every day at 10 a.m. and if they did, they could not all be reading or understanding at the same level or with the same interest. It sounds unbelievable but most of our education procedures are grounded on the assumption this would be true. We have somehow, in our bigness and striving for mass education, lost complete sight of our more fundamental commitments to the dignity of the individual child. While our democratic philosophy and our scientific evidence agree, our educational follow-through contradicts both. We must relate basic philosophic notions to the evidence we have accumulated and match our school systems and their policies to these principles. Perhaps somewhere in that process of establishing meaningful goals we will discover some viable solutions.

In more immediate terms, we must extend our concern to fundamental reform of the education process and structure. Such reform will have to provide for a dynamic process, allowing for flexibility and response to the changing needs of American society. It must provide not for a circulation of leadership but a redistribution of power in the policy process. A new environment for education will provide the basis for the emergence of new educational concepts. This environment can only be created through the community school movement.

In a short time, the community school concept has provoked a wide variety of interpretations. What constitutes "a community school"? Definitions vary. Some consider a "community school" one which services the interests of the community in such areas as recreation and adult education. Others consider such a school to be governed and operated by and for the community. Essentially, a community school is one which is responsive to community needs and interests both in program and in structure. The schools and/or districts, therefore, characterized as "community schools" must combine educational and political criteria; particular stress is on parent participation in school governance combined with a strong orientation toward responsiveness to community needs.

The assumption of community school systems is that only in an improved environment can educational solutions be tried and tested fairly. Also, reform of the system toward greater community involvement increases educational alternatives offered, since one can presume a greater willingness to experiment. New lay participants provide a fertile source for ideas; and the system must respond to innovation and positive change to renew itself.

Thus, the overcentralization and bureaucratization of city school systems, and their resultant failure to respond to mounting community needs, stimulated the development of community schools. Ultimately, this bureaucratic stasis led to the transformation of the concept of community participation into what is now known as community control.

The community school movement also owes some of its impetus to Federal programs which encouraged parent participation in school policy making. Local parent governing councils were an integral part of Head Start and Follow Through programs. Community-directed projects such as after school centers, adult education classes, and other compensatory programs have often required community involvement in planning. The Elementary and Secondary Education Act of 1965, for example, recommended the creation of citizen advisory councils to consider and review local policies under the provisions of the Act; Title I programs were to be approved by local community councils. The Model Cities legislation reinforced this concept by providing for community participation in its planning councils. It is not surprising, therefore, that the educational components of local Model Cities plans all called for community control of local schools.

Closely related to this general trend toward local control is the school decentralization reform movement in large cities. This movement is a by-product of the dissatisfaction with educational systems which ignore local needs and interests. Still in its early stages, citizen demands for citywide decentralization range from plans for an increased share of decision-making for the local neighborhood district to complete separation of sections of the city into independent school districts under State supervision. The more extreme the conditions in a city and its ghetto neighborhoods, the more radical are the demands for change. Understandably, community groups in Harlem and Watts have pressed for complete independence from their city school systems. More modified arrangements are found in the three demonstration districts in New York City (Ocean Hill-Brownsville, Two Bridges, and I.S. 201 Complex) and the Anacostia district in Washington, D.C., all of which operate under the city board of education. The Woodlawn district in Chicago and the Adams-Morgan school in Washington, D.C., represent efforts at creating a three-way community-university-city structure in the operation of a community school. The latter are now, however, moving further toward more extensive community control while de-emphasizing the university role.

In the last two years, several large city school boards and State legislatures have considered city-wide decentralization (mainly involving a devolution of administrative power to local districts). The Michigan and New York legislatures enacted laws for Detroit and the New York City school systems, delegating increased powers to local districts. Both plans call for local school board elections within the city school district. In each case, professional educators defeated more radical plans entailing a greater delegation of powers to the local community. At present, the Massachusetts legislature is considering a bill enabling local control districts to be established in Boston and several other large cities. In Washington, D.C., the Board of Education has been considering plans for some city-wide decentralization program to be effective within the next year.

In addition to State and city-wide efforts to achieve a greater degree of community involvement in schools, individual districts and school board members in many large cities have developed plans of their own. Under Model Cities legislation, formal plans in Philadelphia, Dayton, and Gary create community control school districts. Unofficial arrangements in individual schools in Detroit, Philadelphia, and New York City involve parents' committees in the selection of programs and personnel. The Joan of Arc Complex in New York City elected its own unofficial local school board in 1968. In individual schools in cities throughout the country, parent groups have demanded a role in the selection of principals. Although not formally recognized as community schools or districts, these efforts reflect the general thrust of the movement.

Suburban school districts are traditionally self-governing. Some interpreters of the scene point to them as models for community school districts in the city. The mere election of a local school board, however, should not be considered indicative of a community school project or even a community-oriented school program. Direct parent participation in the policy process is the essence of the community school concept. And in suburban districts there may be little such emphasis compared to the inner city. In several minority-group suburban areas, however, there is evidence of increasing interest in guaranteeing a more direct parent role in the policy process. Those districts would therefore, appropriately be considered a part of the community school movement within the public school system.

It is apparent that accumulated frustrations with city school systems and their general resistance to change have stimulated greater interest in the private community-controlled school concept. Throughout the country, community groups are turning away from the public school system to the alternative of private community-run schools. Because these efforts are centered in ghetto communities, funding often comes from public sources, but the schools remain outside the public school system.

These two general categories of community schools are distinguished by their strategies. In the former, emphasis is on community schools as part of the existing public school system, offering an alternative to the traditional school concept. It may include individual schools but is more likely to be a school district within the city or suburban community. School reform is wholly dependent upon the system. The struggle is largely one of wresting policy power from the central system. The latter category establishes schools as an alternative to the public system and sets its own standards for reform.

What can the role of the Federal and State and even city government be if the need is, as I have suggested, for fundamental reform with greater Local control and a broader based attack on educational problems? Historically, we have relied on the Federal government to act as a change agent through its grant-in-aid programs. The Federal government must play a vital role in stimulating State and Local governments to policies they would otherwise eschew. There is a strong tradition for such a Federal role in the area of education. The ESEA act provided the major impetus for the adoption of compensatory education programs throughout the country. Prior to the Federal Title I program, urban school systems were satisfied with minimal efforts to answer maximum needs. It is relevant, however, that even with Federal funds, too often programs are recasts of old formulas and contribute little to educational performance. This must be attributed in large part to the static quality of State and Local education bureaucracies and their commitment to the retention of the status quo. School professionals in the State and Local systems tend too often to reinforce each other and are reluctant to become involved in innovative programming.

Federal programs in the future must direct energies to consideration of the basic education structure. They should encourage the movement towards localization either through direct support of decentralized Local districts in cities or through precise guidelines which require expansion of the public role in policy-making. In some cases, bypassing static State and city school systems and support of parallel public or private system might even be appropriate.

ESEA now provides under Title V for State administrative needs; that section of the act should be expanded and used to promote more imaginative programming by State education departments in the area of urban education. Federal programs should also influence more equitable distribution of State aid and penalize those States and/or cities which discriminate against poor neighborhoods. Too often, Federal funds become a replacement for State and Local funding in these areas.

The crisis in urban education must in large part be put at the door of the State governments. Education is, after all, constitutionally a State function. In a recent evaluation of State education structures the authors noted that:

> Almost without exception these structures are clumsy, cumbersome, and lacking administrative coordination with the rest of State government . . . With few exceptions, the State departments and boards of education have been closely linked with the organized education profession and its allies.

The study proceeds to suggest the lack of effective State leadership in educational policy development.

The recent study of the Federal Title I program by the NAACP and the Southern Center for Studies in Public Policy reinforces the general findings regarding the deficiencies in State education policy and administration in the conduct of Federal programs, noting that:

> The States' unwillingness or inability to administer a large Federal program according to the law and in the best interests of poor children should deter any trend to give the States still more control over more programs as advocates of "bloc grants" urge. With few exceptions, the states lack the ability to administer competently programs in a manner faithful to national policy.

Most of the States have virtually ignored the special needs of education in the urban centers and inner cities. In their own structure, they have yet to organize special urban education sections or to employ urban specialists. Grant-in-aid-formulas traditionally show little respect for the needs of the cities and their education problems. In fact, in many of the States there is an obvious anti-urban orientation which acts to the detriment of city school systems and their school populations.

The inadequacy of State education apparatus will most certainly undermine existing and new Federal programs and should be a top priority in any effort to achieve change in the overall structure of education. A major effort must be mounted to encourage the States to direct their energies to urban education needs and to stimulate reform of Local structures. The States can be the source of comprehensive local reform only after they put their own houses in order.

The movement for greater community participation in the policy process in American cities extends beyond school reform to other areas. It represents the hope of a large segment of the population which has been alienated from the institutions of the society. Because education is so integral a part of Local government and because it represents such a vital link in the development of the community, it will be a major target of concern in the 1970's. The test of the vitality and responsiveness of the city school systems will come in the next decade. The future of city schools may well rest on the kind of response which is forthcoming.

ELEMENTARY AND SECONDARY EDUCATION FOR THE SEVENTIES: SOME PROSPECTS AND POSSIBILITIES FOR FEDERAL ACTION

Roland Goddu, Dean, School of Education, The Catholic University of America, Washington, D.C.

> A behavior disorder is likely to be more dysfunctional than a bad tooth. It is this important implication, as well as the frequency of the reported need, that makes the mental health of disadvantaged children rank high in any order of unmet needs.[1]

Any plans or projections for elementary and secondary education for the Seventies must be placed in the context of the facts, insights, and persons' data we have collected in the sixties. Our great leap forward for equality of education remains reality bound, seeking the energy for release. The energy is not only a critical mass of Federal, State, local and private funds, but also the collection and systematizing of the realities and forces that will bring us out of a climate of slogans, self-interest, professional jealousy, conceptual sterility, and simply pig-headed, masochistic individualism. Our children provide us with mute evidence of our neglect:

According to the Coleman Report,[2] in comparing reading achievement of students throughout the country with the white students in the metropolitan Northeast, the white students were .8 grade behind, while nonwhites were 3.8 years behind in reading ability by grade 12.

The retention rate for students between the fifth grade and high school graduation is approximately 72 percent, while the dropout rate is 28 percent.[3] Although the National Institute of Mental Health in 1967 reported that only 10 percent of the Nation's high school students have smoked marijuana, other responsible estimates of students' use of drugs vary from 5 percent to 35 percent.[4]

Our children provide us with stark evidence of their commitment to values:

250,000 were in the march on Washington, D.C.

1,200,000 have served in Vietnam, while 475,000 serve there now.

These children are the result of the sixties, of the curriculum reform movement,[5] team teaching,[6] programmed instruction,[7] television,[8] mobility,[9] urbanization,[10] the decrease in natural resources.[11] Yet the one dominant idea that our culture tells us about our children and about ourselves is a significant deterioration of mental health and concomitant behavioral disorders. We do not seem to be secure enough in ourselves as individuals or as a society to tolerate, accept, or acknowledge divergent, diffuse, and even opposite views or directions.[12] We find that the concepts that are forming the basis for our hopes for the sixties are based on broader acceptance of divergence as valuable. Some of these concepts are: ecology—the biological, chemical, social, and governmental interdependence and interrelations of all things; leisure [13]—the provision for space in work, play, thinking, learning; tolerance [14]—the respect for ambiguity, for limits of ideas models, systems; conservation [15]—the acknowledgment of the end of affluence, the need to control pollutions; accountability,[16] the balance of effectiveness over efficiency, or purpose over structure, and of responsiveness over authority.

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[1] The National Advisory Council on the Education of Disadvantaged Children "Title I—ESEA: A Review and A Forward Look—1969" *Fourth Annual Report* U.S. Government Printing Office, 1969.

[2] Coleman, James. *Equality of Educational Opportunity,* Washington, D.C.: U.S. Government Printing Office, 1966, p. 274.

[3] *Digest of Educational Statistics,* 1968. Washington, D.C.: U.S. Government Printing Office. 1969, pp. 7–8.

[4] "Authorities Respond to Growing Drug Use Among High School Students" *Phi Delta Kappan* Vol. L (Dec., 1968) 4. p. 213. See also: "The Drug Generation Growing Younger" *Newsweek,* Apr. 21, 1969, pp. 107–8.

[5] Tyler, Ralph. *Basic Principles of Curriculum and Instruction.* Chicago: University of Chicago Press. 1950. See also: Tyler, Ralph "New Dimensions in Curriculum Development." *Phi Delta Kappan* Vol. XILIII (Sept., 1966).

[6] Anderson, R. H. and Goodlad, J. I. *The Non-Graded Elementary School.* New York: Harcourt Brace, 1959. See also: Anderson, R. H. "Team Teaching in the Elementary and Secondary Schools *Revolution in Teaching.* Grazie and Sohn (Ed.) New York; Bantam 1964. Shaplin, Judson. *Team Teaching.* New York: Harper and Row 1964.

[7] Skinner, B. F. *The Analysis of Behavior: A Program for Self-Instruction* New York: McGraw Hill 1961. See also: Skinner, B. F. *The Technology of Teaching.* New York: Appleton-Century-Crofts 1968.

Planning the Federal involvement for the seventies requires the development of principles and plans to accomplish a purpose. Commissioner Allen has asked that one of our purposes be the "Right to Read" for all children. The National Advisory Council on the Education of Disadvantaged Children has asked that mental health be one of our purposes.

Coleman's *Equality of Educational Opportunity* has asked that quality of education be one of our purposes for the seventies. Our present drift will force us to respond to certain predictable influences. Certain policy decisions by Congress would help coordinate the drift to meet necessary social purposes.

Our limited vision into the early seventies allows us to predict the following items which will have significant impact on elementary and secondary schooling:

(a) Money and financial resources will continue to be significantly redistributed among more people. Poverty will continue to exist in certain places which are remote, have no interest or available resources. The reality of the contrast of this poverty to world poverty will make us more hopeful about the reality of our poverty. By the late seventies we may even have enough social consensus to redistribute financial resources more radically.

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[8] McLuhan, M. and Carpenter, E. S. *Exploration in Communication, An Anthology.* Boston: Beacon 1960. See also: McLuhan, M. *Understanding Media: The Extension of Man* New York: McGraw Hill 1964.

[9] Calvo, Robert C. "Helping the Mobile Child" *Phi Delta Kappan* Vol. L (April, 1969) 8. See also: Thomlinson, Ralph. "Internal Migration" Chapter 11, *Population Dynamics* New York: Random House. 1965.

[10] Gottmann, Jean, *Magalopolis: The Urbanized Northeastern Seaboard* New York: 20th Century Fund 1961. See also: Weaver, R. C. *The Urban Complex: Human Values in Urban Life* Garden City, N.Y.: Doubleday. 1964.

[11] Landsberg, H. H. "The U.S. Resource Outlook: Quantity and Quality" *Daedalus* Vol. 96 (Fall, 1967) 4.

[12] Carson, Rachel. *The Silent Spring* Boston: Houghton Mifflin, 1962. See also: *Daedalus* "America's Changing Environment" Vol. 96 (Fall, 1967).

[13] Charlesworth, J. C. (Ed.) *Leisure in America: Blessing or Curse?* Philadelphia: American Academy of Political and Social Science 1964.

[14] Oppenheimer, J. R. "Prospects in the Arts and Sciences" *The Open Mind* New York: Simon and Schuster, 1955.

[15] *Conservation—In the People's Hands.* Washington, D.C.: American Association of School Administrators 1964. See also: Swan, James. "The Challenge of Environmental Education" *Phi Delta Kappan* Vol L (Sept., 1969) 1.

[16] Coleman, James. "Concept of Equality of Educational Opportunity *Harvard Educational Review* Vol 38 (1968) 1. See also: Bushnell, D. *The Computer in American Education* New York: Wiley and Sons, Inc. 1967 (Ch. 1).

(b) Information and its dissemination will continue to improve in quality and usefulness. Equality of educational opportunity will be significantly achieved through the expanded use of media, environmental learning areas (mobile, ecologically complete exhibits, e.g. the Folk Art Festival, are presently developing). The expanded impact of television with careful programming techniques (e.g., Sesame Street) will decrease the need to depend on the teacher in school as the only and primary source of culture transmission. By the late seventies schools will serve again as knowledge factories rather than skills or aptitude development centers.

(c) Chemical and biological knowledge will improve the basic metabolism and physical health of learners. Synthetic foods with more efficient protein and vitamins will be available on a mass basis. By the late seventies children who have had a carefully programmed health and food plan will be learning information at rates that will compress present school learning needs with concomitant effects on teaching methods, curriculum, and school organization.[17]

(d) Mobility and leisure time will change the social dependence on school as a place to hold children. As work days get shorter, school learning activities will move toward flexible scheduling within the total family, child, teacher, learning setting rather than simply within the school. By the late seventies children in different places will have the opportunity to go to school year 'round in whatever place they are, with module learning packages and environments provided by the home school or the receiving school.

(e) Increased political awareness will begin the redirection of national priorities. Choices will not be developed in either/or modes but rather in carefully designed alternatives which allow for divergence of view and multiple goals. By the late seventies, multiple and significantly divergent schooling systems—public, parochial, private, profitmaking—will be developed with clearly outlined comparable performance standards in basic skills for societal growth as well as clearly outlined alternative objectives, particularly in the area of ethical values.

(f) Elementary and secondary schooling will continue to be age-bound, even as complex descriptions of performance are developed, some of which will also be needs of other age levels.

The predictable principles which should be considered in looking to the needs of elementary and secondary education in the seventies include some of the following:

(a) The major concern of professional educators will shift from concern for bricks and mortar, enough buildings to house children, and enough teachers to "handle" them, to providing necessary and useful situations for learning in highly mobile, modular, multi-presentation modes. The teacher will become a master diagnostician and perceptive practitioner.[18]

(b) The pupil/learner will be accepted as an asset to be developed, a beneficiary of the expertise and constructs we have developed. This will lead to a system restructuring, with the pupil as client rather than as raw material of the productive line.

(c) The materials and persons for learning will be seen as an asset to be distributed among States and to the learners where they are. Equal educational opportunity will be extended to focus on distribution of manpower and materials to the client—parent, child. Instead of being limited to equality of access, we will operate on the principle of equality of distribution.

The principles will lead to major development efforts in the early and mid-seventies to accomplish the following:

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[17] A large amount of data can be interpreted to suggest that the school as presently organized is as effective as drugs in highlighting the mental health dysfunction of the poor child.

[18] Special education, which has had a closer relation to the learner because of the clearer measure of accountability, has already developed primitive models of these new roles which should be further examined, tested, and distributed.

(a) Standardized, pretested packages and protocols which can be teacher-managed and placed in the hands of any learner will be available to develop, reinforce, and expand certain knowledges, skills, attitudes. This effort will be initiated by a linking and further development of data collection and instrumentation efforts now being applied to the practice or craft of teaching. We now are beginning to apply our technology to systematizing the process, as well as to the logic of a bit or construct of information about man or reality.

(b) As enough products in multimedia—paper, and pencil, slide tape, etc.—form are available, a significant part of each elementary and secondary school will develop in the form of service stations such as MacDonald's. Certain desired or needed pretested learning sets will be accessible by dropping into a service learning center. The distribution mechanism already in fact exists in the publishing world and in the TV and telephone systems.

(c) And as materials that take over a part of each curricula are developed, engineered and distributed, the role and domain of the teacher will change. Rather than acting as a transmitting channel, the teacher instead will begin to develop arrangements and skills that enhance and develop the learning situation as a place to remake already available knowledge, to apply knowledge to new data, or to discover new knowledge.

What all of this means for the development of new or modified Federal legislation depends also on certain assumptions.

(a) To program successfully, and evaluate the analysis, development, and testing of the packages, instrumentation, development, and distribution systems requires fiscal commitment beyond an eight-month appropriation cycle.

(b) To assure control of performance, the assessment, evaluation, and reporting systems must be refined and systematized.

(c) Existing laws carry in kernel form most of the needed legislation: authorization and appropriation; expenditure, and management of funds needs public clarification.

(d) The domain of Local educational agencies under the direction of State educational authority needs to continue to be clarified and distinguished from the Federal domain.

It seems purposeful, then, to look into the seventies with legislation that encourages the following:

(a) Three-to four-year grant cycles to reduce the start-and-stop, incessant politicking, and inherent mobility of year-by-year funding.

(b) Total systems training, materials development, distribution, teaching, learning, assessment, evaluation, and revision models rather than shotgun, short term, self interest supporting efforts.

(c) The development of instrumentation for analysis, assessment, and evaluation of teaching, learning, and organization.

(d) The development of distribution systems which make products and persons available to all the clients—parents or pupils—who should hold a significant control over the choice of product or person. This would logically lead to legislation which would encourage the availability of multiple products and persons at the Local level throughout our country.

(e) The development and distribution of health and nutrition services and products to all clients.

(f) Flexible arrangements between Localities in the exchange of standardized educational products or services to accompany the clients as they move or vacation.

The elementary and secondary schools of American in the seventies will be different environments. Equality of access to the riches and resources of the educational expertise of this nation should be the priority of the legislation, authorization, and appropriation for the seventies. The increasing pressure of the concept of accountability in a total society will increase the shift from opportunity to access, from availability to choice. Hopefully, the schools or learning environments we provide for our children will be responsive to their needs and responsive to their requests; will provide alternatives in the style of our free enterprise system; and will take advantage of our already developed solutions and techniques. We may move to a radical new schoolhouse, but we need not re-invent the wheel.

We finally have returned our educational focus to the child as learner in a classroom or other place where he learns to read, to listen, to control himself, to put his world together honestly and usefully again and again, to live with others, to value and to make new knowledge. Now we must move to assure that the requirements we place on him for schooling also assure that schooling is a place and a thing that makes it possible for him to learn to read, to listen, to control himself, to put his world together honestly and usefully again and again, to live with others, to value, and to make new knowledge.

Let us start by emphasizing those parts of our legislation which encourage and enhance the probability that such "total support systems" for the learner will be developed as effectively as we have developed such expertise in outer space and on the moon.

PROBLEMS IN THE DETERMINATION OF EDUCABILITY IN POPULATIONS WITH DIFFERENTIAL CHARACTERISTICS

Edmund W. Gordon, Chairman, Department of Guidance, and Professor of Education, Teachers College, Columbia University, New York, N.Y.

INTRODUCTION

The determination of educability in children from populations which show wide differentials in intellective and social functioning is simple but also complex. When the question is posed as a political problem, the answer is simply to declare that all children are educable and assign the responsibility to the schools for educating all children. Some of our activity on behalf of economically and socially disadvantaged children and youth have taken that form. We have agreed that these children should be educated. We have acknowledged or assumed that they are educable. We have greatly increased money and human resources directed at improving their education. We have developed varieties of compensatory education.

Yet we have not been highly successful in educating poor and minority group children. We are now told (or reminded) by Jensen (1969) that the problem may be that these children, particularly the black ones, are genetically different and inferior. The allegation of genetic inferiority is a value judgment based largely on speculation and inference from a quite disparate body of empirical data. The fact of genetic difference is obvious with respect to certain physical traits but not so clear with respect to intellective and social behavioral characteristics. It is clear, however, that children who come from certain ethnic, cultural, and economic groups show some characteristics in high incidence. The hypothesis that some of these characteristics are hereditable is of course tenable. The fact that differences exist, however, is not debatable and may have relevance for the determination of educability. It is when the determination of educability is posed as a pedagogical rather than political problem that the question becomes complex.

The complexity of this issue derives in part from the facts that educational treatments vary greatly with respect to content, focus, and goals, but are relatively nonvariant with respect to method, while on the other hand patterns of intellective and social human functions vary with respect to affective qualities, cognitive styles, motivational forces, task involvement, and temperaments, etc. The variance in these patterns of human functions may require complementary variations in educational *method* as well as in content, focus, and goals. In the absence of such a match, individuals and groups with atypical patterns of intellective and social functions may be uneducable under that inappropriate set of conditions. These same individuals or groups may prove to be educable under a more appropriate set of pedagogical conditions. Thus in the present crisis over education for black, Puerto Rican, Mexican-American, American Indian, poor white, or other disadvantaged groups, the questions of educability may prove to be recalcitrant of solution until we move beyond political declarations to find pedagogical solutions and commit the necessary financial and human resources to the application of these solutions.

DIFFERENTIAL CHARACTERISTICS IN DISADVANTAGED POPULATIONS

Available research data permits the identification of several categories of behavior which are encountered with great frequency among socially disadvantaged youth. First there are several studies which suggest that children from disadvantaged backgrounds in comparison with middle-class children are less able to make use of conventional verbal symbols in representing and interpreting their feelings, their experiences, and the objects in their environments. It is important to note that the apparent deficiency is in the use of such conventional verbal symbols—there is no definitive evidence that such children suffer from an underlying deficiency in symbolic representation.

Available evidence suggests that depressed language function can be the result of a variety of circumstances which make for disadvantaged status. Kellmer, Pringle, and Tanner (1958) found in a group of youth of comparable economic level, age, sex, and I.Q. differences on all quantitative measures of language function, differences which consistently favored children raised in their own homes as opposed to children raised in institutions. The authors suggested that youth raised in the institutions studied were disadvantaged by an insufficient language stimulation resulting in restricted capacity for language development. Other investigators have been concerned with language development in different economic groups. Davis (1937) found a considerably higher percentage of youth with good articulation among upper occupational groups than among lower. Beckey (1942) reported finding significantly more children with retarded speech among lower socio-economic groups. Templin (1953) found a significant difference between children of upper and lower economic groups on tests of articulation, the difference being in favor of the higher economic group. Her data indicates that children of the lower socio-economic groups take about a year longer to reach essentially mature articulation than do those of the upper group. Irwin (1948) reported that children after the age of one-and-one-half showed significant differences in their mastery of speech sounds according to their father's occupational status—with the advantage in the direction of the higher occupational groups.

Anastasi (1952) compared Negro and Caucasian children and found among the Caucasians a greater frequency of mature sentence types, more complex construction and better elaborated concepts. Hilliard (1957), approaching the questions inferentially, found that children with rich information backgrounds were better equipped for reading than were pupils whose previous experience had been meager. In studies by Thomas (1962) and Templin (1957) in which the variable studied was a number of words used per remark, Thomas' subjects drawn from a low socio-economic group showed a mean of 5.6 words used, while Templin's subjects drawn from a middle-class population showed a mean of 6.9 words per remark.

In what is probably the most careful, though limited, study of linguistic behavior in lower-and middle-class subjects, Bernstein (1961) reported that the language of lower-class youths tends to be "restricted" in form. He characterized this language as serving to communicate signals and direction and to confine thinking to a relatively low level of repetitiveness. On the other hand, he described the language of the middle and upper classes as "elaborated" and serving to communicate ideas, relationships, feelings, and subjective states. These works suggest that symbolic representation is present in both classes, but also that important qualitative differences exist in the form of and utilization of the symbol or language systems. These differences may have important implications for learning. However, since these studies have not included analysis of learning facility or lack of it in terms of language forms and vernacular peculiar to the population, the data do not enable us to determine accurately the specific nature of the learning disabilities involved.

But the inferential conclusions drawn from these studies, relating school failure to differences in language development in disadvantaged children, gain some support from studies of concept development in this population. Riessman (1962) has described concept formation among the disadvantaged as content centered rather than form centered, their reasoning as inductive rather than deductive. Such a conceptual style has been viewed as limiting the child's ability to make accurate generalizations and to transfer knowledge utilizing previously learned concepts (Gordon, 1963).

Deutsch (1963) and Hilliard (1957) have noted that increasing age amplifies the difference in the quality of language usage between classes; and Deutsch has suggested that if the acquisition of language is a prerequisite of concept formation and problem solving, then these evidences of relative increasing language deficiency would indicate a tremendous lower-class deficit in conceptual formation. Deutsch

(1963) found that his subjects, drawn from a disadvantaged population, were relatively proficient on motor tasks, on tasks which required a short time span, and on tasks which could be most easily related to concrete objects and services; but, as he later reported (1964), he found lower-class children generally inferior in abstract conceptualization and in the categorizing of visual stimuli. Ausubel (1963) concluded that when there was a delay in the acquisition of certain formal language forms, there was a resultant difficulty in making the transition from concrete to abstract modes of thought.

In a cross cultural inventory of the arithmetic concepts of kindergarteners, Montague (1964) found significant differences between social classes in favor of the higher SES group; but Deutsch (1960) found that arithmetic scores were higher than reading scores among a population of lower-class children, even though both were depressed below national norms. In interpreting this finding, the investigator suggested that the difference might be accounted for by a hypothesis that reading involves motivations arising from specific value systems not shared by the disadvantaged society, while arithmetic may involve concrete acts, such as marketing, which are common to the society. In the work of the author (Gordon, 1965) in Prince Edward County, Virginia, arithmetic scores were similarly found to be less depressed than reading scores in the 7- to 10-year age groups. These children who had been deprived of formal education for four years are thought to have developed simple arithmetic skills in their everyday chore experiences. These experiences did not, however, provide a basis for the casual or incidental acquisition of reading skills.

If these assumptions about the experience-based distinctions between acquisition of reading and arithmetic skills are correct, then the Montague, Deutsch, and Gordon data would seem to support the observation that disadvantaged children tend to depend more on concrete than symbolic experience in dealing with concepts. In a study by Siller (1957), however, this view is subjected to closer examination. Studying 181 white sixth graders, he found that higher-status children (a) scored higher than lower-status children on all tests of conceptual ability; (b) showed a significantly greater tendency toward abstraction in making choices between types of definitions than lower-status children; and (c) when matched with lower status subjects or nonverbal tests, scored higher than their counterparts on tests of verbal concepts. When, however, the groups were matched on the basis of I.Q. scores, none of the above differences remained. The investigator suggests that this is due to an elimination of the lower extreme of the low-status group, which in turn suggests that differences with respect to conceptual style may be a result of generally lower levels of intellectual function (as measured on intelligence tests) among lower-status children. Thus, while there is a considerable body of evidence to support the statement that lower-status children tend to show preference for concrete as opposed to abstract frames of reference in concept formation, the origin and nature of this style dominance and its relationship to intelligence and the teaching-learning process are yet to be established.

Among other disadvantageous characteristics, disadvantaged children have been noted by several investigators and observers to demonstrate perceptual styles and perceptual habits which are either inadequate or irrelevant to the demands of academic efficiency. Although high levels of perceptual sensitization and discrimination are often present, these skills to be better developed in physical than in visual behavior and in visual than in aural behavior (Riessman, 1962). Probably the most significant characteristic in this area is the extent to which these children fail to develop a high degree of dependence on the verbal and written language forms of academicians for learning cues. Many of the children simply have not adopted the modes of reception and expression which are traditional to and necessary for success in school.

The extent to which styles of perception and expression differ among children of different backgrounds is well documented. In his study of retarded, average, and gifted children, Jensen (1963) concluded that many children viewed as retarded have merely failed to learn the verbal mediators which facilitate school learning. Earlier Carson (1960) found white children superior to Negroes and northern Negroes superior to southern Negroes when it came to understanding the meanings of words used in communication. In a study of children's use of time in their own stories, Leshan (1952) found that time orientation varies with social class and that middle-and upper-class children told stories involving a more prolonged period of time than those of lower-class children. Riessman (1962) includes slowness as a feature of the cognitive functioning of disadvantaged youngsters, a conclusion arrived at by Davidson some ten years earlier (1950) on finding differences in speed of response to be primarily responsible for racial differences in I.Q. estimated by timed performance tests. Deutsch (1964) found lower-class children relatively poorer in auditory discrimination, in recognizing perceptual similarities, and in the syntactical manipulation of language. Earlier (1960) he had found them inferior to a control group on tasks requiring concentration and persistence.

In fact, many of the children with whom we are concerned show a marked lack of involvement with, attention to, and concentration on the content of their academic experiences. There are few academic tasks which commit them to deep involvement. Their work habits are frequently insufficiently developed. Because of the high interest demands of nonacademic experiences and the relatively low-interest demands of academic experiences, they are limited in their ability to inhibit responses to those stimuli which are extraneous to academic learning and to disinhibit responses which are pertinent to academic learning. Deutsch (1960) reported that lower-class children tend to ignore difficult problems with a "so what" attitude and that as a result, over a period of time, their learning is decreased proportionately. Ausubel (1963) found that lower-class children depend more on external as opposed to internal control than do children from the middle class.

Moreover, socially disadvantaged children have been determined by several investigators to be less highly motivated and to have lower aspiration for academic and vocational achievement than do their midde- and upper-class school peers. The degree of motivation and the direction which it takes among many of these children are often inconsistent with both the demands and the goals of formal education.

But although the quality of aspiration is often depressed, it is usually consistent with the child's perceptions of the opportunities and rewards available to him. Symbolic rewards and postponements of gratification appear to have little value as positive motivators of achievement. For these children goals tend to be self-centered, immediate, and utilitarian, as are the goals of the dominant culture. However, children growing up under more privileged circumstances have available many sources of immediate satisfaction and immediate feedback as well as many more evidences of the utilitarian value of academic effort. The differences between the privileged and the disadvantaged in this area are not so much differences in values as differences in the circumstances under which the values are called into play. Although the values from which motivation is derived in the disadvantaged child seem to reflect the dominant-culture concern with status, material possessions, ingroup morality, Judeo-Christian ethics, competition, etc., there is usually lacking a concern with the aesthetics of knowledge, symbolization as an art form, introspection, and competition with one's self. In other words, dominant societal goals and values are operative, but their direction and context may not be complementary to academic achievement.

Rosen (1956), observing a relationship between high motivation and high grades, postulated that middle-class children are more likely to be taught the motives and values which make achievement possible. Similarly, in Gould's study (1941), only sons who internalized their parents' values of aspiration were sufficiently motivated to overcome obstacles which faced them in school. Bernstein (1960) found achievement strivings arising from parental demands for success to be a more central motivational factor among middle-class than among lower-class children.

Closely related to these motivational factors are attitudinal factors, and these too are often a source of problems in educational planning for disadvantaged children. Hieronymus (1951) found that higher socio-economic status was correlated with a high level of aspiration and positive attitudes toward school while negative attitudes toward school and lower levels of aspiration were more frequently encountered in lower socio-economic status groups. Sewell's (1957) finding that educational aspirations tend to be greatly influenced by class values in a manner favoring the middle and upper classes is consistent with the earlier work. Among other characteristics which have been referred to in this population are utilitarian attitudes toward knowledge and negative attitudes toward the pure pursuit of knowledge. Many of these children and their parents view education primarily in terms of its job market value and their orientation is toward achieving the minimum level of education commensurate with employability. Carroll (1945) sees the lower-class ideal self as characterized by personal beauty and fame, not the moral and intellectual qualities which characterize the ideal self of middle-class children.

As important as these attitudes toward school and learning may be, it is in the area of attitude toward self and others that the crucial determinants of achievement and upward mobility may lie, and it is in these areas that our data is least clear. It has been observed by some that disadvantaged children show affinity for ingroup members and demonstrate a sense of distance from or even hostility toward representatives of outgroups, whether in peer or non-peer relationships. Contrastingly, other observers have noted the high degree of respect and awe in which these children hold selected outgroup status persons or idealized models. Tendencies toward self-depreciation and depressed self-concepts have been noted by several observers (Dreger, 1960; Keller, 1963; and Silverman, 1963). Goff (1954) found that lower-class children have more feelings of inadequacy in school than do children from the middle class. On the other hand, some recent findings (Gordon, 1965) suggest that depressed self-concept is not so prevalent a condition, and that even where present it may have little negative bearing on achievement. In fact, it is entirely possible that positive or negative feelings of self-worth may operate respectively to depress or accelerate achievement. Furthermore, it is in this area that the rapidly changing national and world situations involving underdeveloped peoples are likely to be most influential, and it is difficult to predict the ultimate effect of these altered situations on self-perception and behavioral change.

Our knowledge and even our researchable hunches are as yet limited. But it is around these changing situations that the school yet finds a fulcrum on which to lever up motivation, aspiration, and involvement. There is growing empirical evidence to support the view that young people actively associated with the current civil rights struggle draw from their involvement in that effort a new source of motivation and an enhanced view of themselves (Coles, 1963). The impression is gained that such experiences are reflected in greater application of effort to and greater achievement in academic endeavors. The evidence for such improvement is less clear, yet there can be little doubt that attitudes toward self and toward the environment in relation to self are crucial variables in academic as well as in social and emotional learning situations. One of the clearest findings coming from the Coleman Report (1966) indicates the crucial role of a sense of environmental control in academic achievement. The importance of an individual's sense of personal ability to influence his future through his own efforts is exceeded only by family background characteristics as a contributor to school achievement.

With the notable exception of Riessman (1962) attempts at identification of positives or strengths in this population are hard to find. However, even in Riessman's treatment there is a tendency to romanticize these characteristics which may be a more serious error than to ignore them. Among the several positives which may be identified are those behaviors and conditions which can be utilized and built upon for the purpose of educational improvement. It is extremely important to recognize that *selective* motivation, creativity, and proficiency are present in this population; and, as Riessman has consistently stressed, if we look for these characteristics in their traditional form and along traditionally academic dimensions, we shall merely insure that they not be found. These children, like others *are* motivated by *some* factors in the field. They show creativity in *some* situations. They are proficient at *some* tasks and under *some* conditions.

Reference has earlier been made to problems in language development and use. In contrast to the colloquially accepted concept that language is inadequate in this population is the proposition that there exist in disadvantaged populations quite complex languages. The form in which the language is expressed may not be verbal nor may the specific symbols be consistent with those normative to the dominant culture. But the presence of a language system or a system of symbolic representation adequate to the needs of the culture in which it has developed should not be ignored. The important question then becomes not whether language exists, but to what extent a given language system may be utilized in understanding and managing advanced conceptual problems. If the facts and integrative relationships of science or the conceptual explorations of philosophy cannot be expressed in symbols capable of incorporation into the language system in question, then that language, though it may be adequate for the culture in which it exists, is inadequate to the demands of contemporary educational processes.

To date, investigations into the utilitarian dimensions of divergent language patterns have not been conducted. Our research has established the fact of language differences (Deutsch, 1963, 1964; Jensen, 1963; John, 1964), and in addition we know something of the nature of these differences. The Bernstein work (1960, 1961) referred to earlier characterized lower-class language as restricted and middle-class language as elaborated. Strodbeck (1964) has described a mechanism by which such language systems may develop and be perpetuated. He identifies this mechanism in the context of intrafamilial decision theory where the elaborative characteristic of middle-class language is a product of parity (and thus conflict) in the decision-making process in the middle-class home. Restricted language, on the other hand, develops as a product of unilateral decision making in the lower-class home. In a situation involving equality and conflict of ideas, the learner (child) early develops sensitivity to language as a vehicle for the elaboration of ideas. Where the opposite situation exists, the child early develops sensitivity to language as a vehicle for the communication of signals or directions. Some findings of C. Deutsch (1964) indicate that there are significant class differences in the time spent in parent-child communication—the length of such communication is considerably shorter for lower-class than for middle-class subjects. This difference has been viewed as a handicap, but it may be that given a different instructional method this proclivity for brief verbal communicative contact could be an advantage to the learner.

Much of our knowledge concerning children from socially disadvantaged backgrounds has been drawn by inference from the wide literature on juvenile delinquency. Sensitive analysis of this literature leads to an awareness of several other characteristics of this population. One cannot study the literature on boys' gangs or juvenile offenders without coming to the conclusion that these youngsters show ingeniousness and resourcefulness in pursuing self-selected goals and in coping with very difficult and complex conditions of life. Such coping behavior reflects accuracy of perception and generalization around a variety of social, psychological, and physical phenomena. It is at once obvious that these children are capable of meaningful and loyal personal relationships and operate with an ingroup morality that surpasses that of some more privileged segments of society. In many situations where the problems flow from the experiences and are important for the self-selected goal, such operations as memory, recall, computation, and representation have been demonstrated to be functionally adequate.

The second area to which research attention has been directed is the environment. Studies referrable to environmental concern have consisted largely of a cataloguing of the factors in homes and communities from which disadvantaged children come which may interfere with normal school achievement. Such studies have often been conducted with the ultimate aim of incorporating knowledge obtained from them in the training of school personnel so that they may "understand" the culture and the values of their pupils. The concurrence between certain conditions of life, certain population characteristics, and poor school adjustment has been interpreted as indicating a casual relationship, though the evidence supports only the conclusion that these phenomena are correlated.

Such studies, while they may have social-anthropological value, are of questionable use in planning educational programs for these children. It is probably true that adverse conditions of life do not facilitate academic achievement in most children, but we have no firm evidence that such conditions preclude academic success. In fact, there are sufficient cases of success despite adverse conditions to make untenable the conclusion that difficult life circumstances prevent success in school. Insufficient attention has been given to the fact that many "normal" and well-functioning individuals have such adverse circumstances in their lives. There are many good reasons for improving the living conditions of the disadvantaged, and there is certainly no good excuse for an affluent society to fail to do so, but a concern on the part of the school for changing poor conditions of life should not substitute for a primary concern with the improvement of the teaching-learning process.

THE PROTEAN NATURE OF EDUCABILITY

One of the traditional roles of education in the U.S.A. has been to broaden opportunities for productive, influential, and rewarding participation in the affairs of the society by developing those skills and entry credentials necessary for economic survival and social satisfaction. The idea of education for all grew gradually. In this country we extended this opportunity to more and more of our people by a steady increase in the quantity of educational experiences available and the quality of the educational product. While the quantity of available educational experiences has grown, there also has been a marked increase in the quality of the skills and competencies demanded of those who would achieve much. Similarly, the individual's goals are higher. He wants to be productive in the sense that the society sees his effort as resulting in a valued product; influential in the sense that his participation is viewed as having some influence on outcomes; and rewarded for his effort both materially *and* psychologically.

Increased perception of this role of education makes us want to equalize access to basic education of high quality. Spurred on by the civil rights movement of the 1950's and 1960's, equal opportunity in education has become an issue of crucial national concern. By many, it is regarded as the base for all the rights, privileges, and responsibilities of membership in this modern democratic society.

Our country's desire to equalize educational opportunities is in part a product of advances in the organization and development of human societies during the past six centuries. In earlier periods when neither the need nor the resources for wide access to education existed, the ideal of universal equalization of educational opportunities also did not exist, certainly not in the public policy sphere. The concept itself and the concern for its implementation could not have emerged as an important issue, even now, if we had not earlier developed an awareness of the university of educability. Human societies have always considered educable those categories of persons thought to be needed in the maintenance of the social order. Consequently as the human resource requirements of social orders have changed, concepts of educability have changed. Educability in human subjects has been defined less by the actual potentials of persons and more by the level of society's demand for people capable of certain levels of function.

In more simplistic and exclusive social systems, most people were considered uneducable and effort was not "wasted" on their formal training. As long ago as the early Christian period and as recently as the early nineteenth century, it was only the religious and political nobility who were thought to be capable and worthy of academic learning. The social order was maintained by the machinations of those elite groups and the simple and routine gaming, farming, and crafting skills of the illiterate masses. Under the triple pressures of the reformation in religion, mechanization in industry, and institutionalization in commerce, categories of persons thought to be capable of academic learning were greatly expanded. Opportunities for active participation in religious activities and rituals made reading and writing more widely usable and salable skills. Similarly, the emergence of collective machine production in shops and the expansion of commerce and trade through institutions made necessary the broader distribution of these skills. The combined impact was a greatly increased societal need for computational and communicative skills in larger numbers of people. As a corollary, previously illiterate people were drawn into the small body of literates and the mass of "uneducables" was reduced.

In the United States, where religious freedom and diversity became widespread, where democracy in government became the ideal, and where industrialization and economic expansion advanced most rapidly, more and more literate persons were required. In mid-nineteenth century U.S.A., society's view of who could be educated quickly expanded to include all people in this country except for slaves. With the end of slavery and the incorporation of ex-slaves into the industrial labor force, ex-slaves gradually came to be regarded as educable. Through the exercise of briefly held political power, together with uneducated poor whites, they literally forced increased access to public education as a vehicle for their education. These indigenous poor were later joined by waves of immigrants who also saw the public school as their major route to economic and social salvation. In the metropolitan areas of the period, the school also became the major vocational training resource that prepared semiskilled and commercial workers for rapidly expanding industries. Although the school did not succeed in educating all of these new candidates, the once narrowly defined concept of educability was now nearly universal in its inclusiveness.

Our conception of education has also changed over the years. In Thomas Jefferson's view the school was expected to provide the technical skills and basic knowledge necessary for work and economic survival. It was from newspapers, journals, and books, and from participation in politics that people were to be really educated. In reviewing Jefferson's position on education, Cremin (1965) has concluded that it never occurred to Jefferson that schooling would become the chief educational influence on the young. However, changes in the number and variety of persons served by the school, changes in the functioning of the society, and changes in the nature of the skills and competencies required by the social order have also changed the nature of education.

By the middle of the nineteenth century in this country, public schools serving the upper classes had developed curricula basic to a liberal education. In this period, the secondary school was quite selective and was designed to prepare a relatively few young people for entrance into college where most of them would pursue studies leading to one of the professions. While this trend continued through the latter half of that century, the first half of the twentieth century was marked by a high degree of proliferation in the development of technical and vocational training programs. Preparation in the liberal arts was considered a luxury and was thought by some to be relatively useless. It was the Jeffersonian concept of utilitarian education which prevailed. And it was this utilitarian education which came to be the mode in the growing acceptance of universal educability. "Everyone can and should be taught to do useful work and to hold a job" was the prevalent view.

The wide acceptance of this view contributed to the salvaging of education for Negroes following the betrayal of the Reconstruction Period and its leadership. In the great debate symbolized by verbal conflict between Booker T. Washington and William E. B. DuBois, the real struggle was between those who stood for the narrow but practical training of the hands of Negro and poor children so that they could work and those represented by DuBois who believe in the broad and somewhat less immediately practical education of the mind through the liberal arts and sciences. Those favoring the training of the hands won that debate. Educational facilities for Negroes and other poor people slowly expanded under the banner of technical and vocational training. This may have been a victory for expanded access to education, but the neglected concern for the "liberating" study of the arts and sciences made this a victory from which true equality in education has yet to recover. We will return to this point later in this paper. At the moment our concern is with the protean nature of educability and education.

In this country the battle for equality of educational opportunity was first waged to establish public responsibility for the education of children in States where public education did not exist. This was followed by the struggle for adequate educational facilities and diverse educational programs. The twentieth century was one-third spent before the struggle for equal though separate schools was engaged. By mid-century it was legally determined that in our society separate schools are intrinsically unequal. However, even before the 1954 Supreme Court school desegregation decision was promulgated, it was becoming clear that racially mixed school systems do not automatically insure education of high quality. This observation was supported by data on minority group children from schools in the North where varying degrees and patterns on ethnic mix were extant. Although the performance of minority group children in some of those schools was superior to that of such children in segregated systems in the South, differences in achievement and in the characteristics of their schools were notable.

The early 1960's brought campaigns for education of high quality provided in ethnically integrated school settings. Some school systems responded with plans for the redistribution of school populations in efforts to achieve a higher degree of ethnic balance. Some of those, along with other schools, introduced special enrichment and remedial programs intended to compensate for or correct deficiencies in the preparation of the children or the quality of the schools. Neither these efforts at achieving integrated education nor at developing compensatory education resulted in success. Ethnic balance and educational programs of high quality proved impossible to achieve instantaneously. Confronted with the failure to obtain ethnic integration and high quality in education, and given the recalcitrant presence of segregation in schools in the North, South, and West, the goals for many minority group parents shifted. In the late 1960's the demand is made for education of high quality, where possible, on an ethnically integrated basis. However, where segregation exists (and it does exist for the great majority of ethnic minorities in this country), the demand increases for control of those schools, serving such children, by groups indigenous to the cultures and communities in which they live. Hence the demand for "black schools run by black people."

Alongside this growing acceptance and promotion of ethnic separation, there continues to be concern for ethnic integration in education and compensatory education as complementary strategies in the equalization of educational opportunity. The introduction of the concept, "compensatory education," grew out of the recognition that learners who did not begin from the same point may not have comparable opportunities for achievement when provided with equal and similar educational experiences. To make the opportunity equal, it is argued, it may be necessary to make education something more than equal. It may be necessary to compensate for the handicaps if we are to provide education of equal quality. It may be necessary to change the educational method and create new models in order to meet the learning need and style of the youngster who comes to school out of a different background of experiences.

EDUCABILITY AND THE PROCESSES OF EDUCATION

To give meaning to the concept of educability in populations where there is deprivation of developmental and educational opportunity, several educational preconditions are indicated. These include (1) provision for a more appropriate distribution of emphasis between the affective, cognitive, and conative aspects of learning; (2) a shift in emphasis in educational appraisal from quantitative measures and static prediction to qualitative measures and dynamic prescription; (3) increased attention to individually-prescribed learning experiences; and (4) greater concern for insuring that the learning experience is relevant to the general experience of the learner.

Affective, Cognitive, and Conative Aspects of Leaning

Zigler (1966) has suggested that the relative lack of success in many of our programs of compensatory education may be due in part to the fact that so much of this effort has been directed at attempting to modify the cognitive function of inefficient and retarded learners. He reminds us, however, that cognitive function may be the least malleable of human adaptive systems. The affective and conative systems may be more susceptible to change. In his research he has been able to demonstrate significant shifts in intellective function (reflected in intelligence test scores) as attributable to changes in motivation and task involvement without perceptible change in the quality of basic cognitive function. It may be that our efforts at improving the general functioning of these children would be more productive if the emphasis were placed instead on tapping the sources of motivation known to be intrinsic to these learners and on the design of learning experiences directed at basic skills mastery. Productive function in these areas may lead to improved cognitive functions as a byproduct. Experimentation in these areas is not very extensive, save for the work of the behavioral analysis-contingency management clan.

Qualitative vs. Quantitative Approaches to Measurement

The heavy emphasis on reduced demand in curriculum modification for disadvantaged and retarded learners is partially a byproduct of our heavy dependence on quantitative approaches to measurement. When psycho-educational appraisal data are reported in terms of a score or a level of normalcy or retardation, educational planners have little basis for the design of learning experiences. On the other hand, qualitative appraisal data which are descriptive of intellective and social function lend themselves to the prescription of learning experiences which accommodate or complement cognitive style, temperamental traits, achievement patterns, and motivational states. Under such conditions, the predictive validity of measures of status may break down, since the basis of predictions is our knowledge of how others of similar status have performed in fairly well standardized educational or treatment situations. Where the characteristics of the target population vary greatly and traditional approaches to education prove ineffective, a shift in educational appraisal may be necessary from quantitative measurement and static prediction to qualitative measurement and dynamic prescription.

Individually-Prescribed Learning

In prescriptive design in education, the concern is with matching learning experiences to the characteristics and needs of children who vary in a number of ways. The major efforts so far have been directed at prescribing learning units which match the achievement level.

learning rate, or special interests of individual children. Each child is encouraged to move at his own rate and in areas which are of greatest interest to him. Most of these programs use existing curriculum materials with varying degrees of modification. None of the programs has seriously engaged the problems of diagnosing affective and cognitive style and developing materials and techniques which match stylistic variations in learning behavior. As sophistication in qualitative appraisal advances, increased specification in the prescription of learning experiences becomes more possible. However, the ultimate value of individuation in education is dependent upon our ability to translate educational prescriptions into appropriate units of learning experience.

Learning Experiences which have Relevance for the Learner

In order to be maximally meaningful to a child, education must be relevant in three areas: (1) it must relate to him as an affective being through its materials, experiences, and people with which he can identify; his motivation to learn will be more easily tapped when the learning task leads to goals which he perceived himself as valuing; (2) the content and form of the learning experience must be suited to his cognitive style and temperamental characteristics, and must complement his stage of cognitive development; this implies a sensitive determination of the curriculum to be presented as well as the manner in which it is offered to the child; and (3) it must have social or utilitarian relevance; i.e., it must offer those skills and competencies which will expand the realm of functional choice available to the child. In this concern with expanding choices, it may be necessary to include some educational areas with which he does not immediately identify, since it will be based not only on what he would need for adaptation to society at present, but on the projections of what he might need in the future.

In general, the emphasis in attempts to provide relevant education has tended to shift back and forth between a stress on cognitive achievement or development and on emphasis on socialization or "development of the whole child," with few attempts to focus on both simultaneously in an integrated manner. In the recent flurry of activity to improve education for disadvantaged learners, considerable effort has been directed at somehow changing cognitive functioning. Unfortunately, to date there has been relatively little success in developing effective tools to shape this area of functioning. At the same time, emerging research is beginning to make more respectable a renewed emphasis on affective (attitudinal and motivational) processes in learning.

This renewed concern with affect, however, must be distinguished from much of the traditional approach which has concentrated on means of motivating, rather than on ways of using existing motivation. Little attention has been given to providing role models with which the child can identify or to modifying the school so that it and its values have meaning for the child.

Educability may be defined as the condition of being capable of academic learning mastery. The educability of mentally subnormal children, be they mentally defective or socially and educationally deprived, continues to elude definitive determination. Undoubtedly, some of these children are irreversibly retarded. Just how many is an unanswered question. Possibilities for the determination of educability through more appropriate and diligently applied educational processes are asserted to exist. It has been suggested that the failure of compensatory education for disadvantaged children may be the result of insufficient and inappropriate resources and methodology. Given the high incidence of characteristics in this population which are nonsupportive of academic achievement and the relative nonvariant nature of traditional approaches to education, there may be greater promise in effort directed at the development of a match between the individual's behavioral style and background of experience on the one hand, and the nature and content of the learning experience on the other. The fact that they are atypical requires that we give greater attention to what we know about and is implied by our concept of individual differences.

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EDUCATION IN THE SEVENTIES

Ira J. Gordon, Professor of Education and Director, Institute for Development of Human Resources, College of Education, University of Florida, Gainesville, Fla.

Many of the issues and needs of American education in the 1970's emerged as problems in the 1960's. Some have been with us for a considerably longer period of time. Among the pertinent issues are:

1. Who should be educated?
2. Where should education take place?
3. What should they learn?
4. How should they be taught?
5. Who should control?
6. Who should teach?
7. How should teachers be prepared?
8. What are the limits to "education"?
9. How should we evaluate?
10. What basic research needs to be done?

This paper, obviously, cannot deal with these in any depth. What is presented below are ideas about development of new rather than maintenance of existing programs.

First, who should be educated? We define the responsibility for free public education in the United States as extending from entry into the first grade until graduation from high school. We define the person entitled to free public education as the child between the ages of 6 and 18. The requirements of living in the 1970's suggest a redefinition. The total family will be our target population. This means an extension in both directions of the age span. Kindergarten in many states is already part of the public school system, but is not universal. Further, especially for large portions of our population, preschool programs in group settings for 18-month-olds, and other procedures beginning at 3 months, should be rapidly but carefully developed so that deficiencies which presently exist as children enter school can be substantially reduced. Those youngsters who can profit from earlier exposure to systematic learning must receive a sound beginning. The present system of preschool education below entry into first grade is a haphazard mix of crash "compensatory" programs, good but expensive private schools, inadequate day care and baby sitting, and no program at all. A requirement in the coming decade is the organization of concerted efforts to bring some order out of the chaos of preschool education.

Movement in this direction requires an equivalent effort in adult education. Effective school programs must include parent involvement.

Yet, involving a parent as an observer, visitor, or volunteer does not provide sufficient training in those roles parents can perform to enhance the intellectual and personal development of their children at home. Adult education should include training for family living and child rearing in addition to job training and retraining as the job market changes, education for leisure as the work week and work year decrease, and education for personal development. If the family is the target, programs of preparation for effective family living, including provision of adequate intellectual and personal settings for children, can unite both preschool and adult education into a systematic rather than a fragmentary attack.

The requirement for the coming decade is continuous investigation into both the causes of mental retardation and exceptionality as well as the continued development of effective programs of remediation. Much of the research shows that organizational patterns such as special classes will not solve the needs of these children. The use of autoinstructional devices and other individually oriented approaches within normal school settings seem to offer more effective avenues. What is required is continued Federal support not only for programs training teachers for work with exceptional children, but also to enable schools to involve exceptional children as much as possible in the regular school program.

To accomplish these extensions, we need to move away from the type of State and Federal funding in which a specific number of children count as a unit and are entitled to a teacher. Funding patterns must be developed which do not utilize the normal classroom counting system, but which set differing amounts, on some type of cost-effectiveness basis, recognizing that certain programs may be more expensive than our present classroom operations but yield more lasting results.

Second, where should education take place? Formal education has been confined to the classroom, although we know that other social agencies have educative functions. If we move toward new approaches to parent and adult education, particularly as they relate to the education of young children, the home will re-emerge as a central learning institution. Present research indicates that mothers can and wish to perform educational roles when they are taught via home visit approaches. The Children's Television Workshop offers one model for the introduction of organized, systematic learning programs beamed at a particular age level. An emerging possibility for the 1970's is the use of electronic video recording (cassettes for T.V.) which enable the person at home to hear and see the same information as often as he wishes. The advantages of a home visit program are the personal touch and the selection of appropriate material. The advantage of television is its immediate availability to a wide section of the population. EVR offers some opportunity to combine these two approaches.

The major difficulty will be the creation of home learning materials which match the mother's background, education and motivation, the needs of the child and the family, and the goals of the program designers. Federal support, because of the expense, will be necessary for material and curriculum development, as well as the design of delivery systems, to make the home an adequate learning setting. New ways will evolve for feedback as well as selection of materials. Users need to inform developers of materials so that efficiency can be increased. Careful evaluation and research under controlled field conditions is essential. Teams of media technicians, subject matter and child development specialists, and people from the broad spectrum of the social and behavioral sciences will need to function in a somewhat similar manner to the curriculum reformers of the 1950's, but with a more clearcut recognition that the production of materials is only one phase of the total problem of curriculum and instruction.

The public school will continue as the major institution for children between the ages of 6 and 18, but it must be converted into a community school with provisions for adult, technical, and vocational educational and community activities. Adults should see the school as open and accessible to them for continuous learning throughout life. The procedures developed in Flint, Michigan, should be generalizable in many settings.

A phenomenon of the "war on poverty" was the emergence of preschool programs not directly under the aegis of boards of education or other State agencies. On the horizon is the emergence of a day care and child development industry and a large-scale development of private, preschool programs for those able to pay. In urban settings, "street" academies which offer programs to serve a variety of the needs of adolescents not currently met in the usual academic curriculum, are emerging. The private and parochial school systems are expanding. The development of pluralistic approaches to the provision of education, in which the former dominance of the public school system may be decreased, raises a host of problems for legislation. In what ways should these agencies become available for Federal funds? What controls, both over program and accounting, should be developed? What possible alternatives should be made available for all children, not just those of parents who can either afford much or those who can afford nothing? How are options to be made available to the vast middle class? I can do no more here than raise the issues.

Third, what should school-age children and preschoolers learn? With the high level of mobility of the American population and the chances of continued technological development, the issues of national curricula and national standards must move from political football to logical and substantive debate. If we can adopt as one standard that any child, growing up in any section of the country and belonging to any subculture, should be able to function as an effective citizen in any section of the country and in contact with members of other subcultures, then we will at least move the debate to a discussion of what this requires. I believe that basic competence in language, in computation, and in interpersonal relationships are common needs of all our citizens. At the present time graduates of our high schools vary widely in their ability to speak, read, write, and handle mathematics basic to life in an urban technical world.

Many lack skills for dealing with social issues. A basic requirement of American education in the area of the social studies is the development of curricula which have value overtones and commitments to American democracy along with historical, economic, and social information, so that the average American high school graduate will not be ignorant of his heritage and will be able to be an active participant in the continued development of the nation. Too many of our present students and adult population are ill informed about even such basic American documents as the Declaration of Independence, the Constitution, and the Bill of Rights. Further, cultural pluralism will be an increasingly critical notion in the next decade. We must provide students with information and experience so that all portions of our society will understand the contributions of all others and will value regional, ethnic, and religious differences.

One can learn a set of facts without placing them in a conceptual framework and without utilizing them for action. Our present concern with ecology, for example, indicates that students will need to understand not only elements of biology but also economics, politics, social psychology, and history so that they can make wise decisions when faced with choices about engineering projects which have environmental effects. Simple knowledge of facts in any one of these fields is insufficient. Curricula must be designed to relate facts to concepts to behavior. We need to develop the types of learning materials which cut across disciplines and which develop thought patterns involved in decision-making. These do not exist at the present time, nor do we presently turn out of graduate schools, in the disciplines or in education, people trained to develop such materials. Federal funds will be required for training material developers as well as for the development and assessment of learning materials. The whole delivery system needs to be reexamined.

Fourth, how should students be taught? Traditional learning theory has been sterile, but two mainstreams of psychological thought are beginning to make contributions to instruction: cognitive development and instrumental or operant learning. However, present data are insufficient to provide cues to teachers as guides for behavior in classrooms, in using media, or in working in a home. It is in the field of instruction that more basic field research must be done, in a variety of settings, with students of all ages, faced with learning a variety of materials, before we shall develop a fairly consistent set of principles. It is remarkable that this statement can be made at the beginning of 1970, after 70 years of learning research since Pavlov. Most of what is known does not apply to the classroom setting. Federal initiative for basic research in classrooms, rather than in infra-human learning laboratories, is a fundamental requirement.

Technology is a central issue. We have not learned how to use it. We have been deficient in training teachers to utilize electronic means in classrooms. Most of the software prepared has been inadequate. There are, in addition, a number of theoretical as well as empirical problems. What is it that programs beamed to large audiences can teach most effectively? How much repetition must be provided? How can autoinstructional means be cheaply devised, utilizing cassettes, tape recorders, and eight millimeter film? How can material be updated? How can technology be used to allow the student some selection and control over the materials to which he is exposed? Can he check materials out like a library book? If current learning and cognitive theory suggest that the young child, especially, must be an active agent in his learning and deal with concrete objects, how can we cope with this problem?

This raises the question of "individualizing" instruction. How does individualizing instruction relate to the question of what should be learned? Is individualization a matter of rate or of content selection as well? It is, obviously, beyond the scope of most classroom teachers faced with 30 children to do more than mouth the slogan. How do we learn to use technology to free pupils to learn?

Fifth, where should the control of education reside? American doctrine has been local control, and fears have been expressed that Federal funds means Federal control. However, in the urban centers, demands for community control and decentralization will grow stronger in the next decade. Yet, it is obvious that the smaller unit is inadequate, even at the State level, to provide sufficient funds. I oppose large nonprogrammatic grants to school districts and States because educational institutions will continue to do what they have always done. Innovation and initiative emerge when Federal money is the carrot. It will not occur on the local level if money is simply awarded per number of children or number of units of instruction. This may be a harsh statement, it may be partly incorrect, but it is my view from experiences over the last 20 years.

We need some way of rewarding local initiative, encouraging variety and pluralistic programs to emerge at local levels with adequate support from government. But the skill required in proposal writing and the design of research and evaluation to accompany proposals do not exist in many local settings. The model developed in Follow Through of relating university and school systems in combined participation nation wide is a viable and desirable notion. It cannot occur readily if money is awarded to States. A program developed at a university some distance from the State may not be used because the tendency will be to turn to local institutions.

The pattern of encouraging universities and school systems to create programs in a national competition for funds, with decisions being made by scientific boards in the manner traditionally used by the National Institutes of Health, would tend to remove most of the stigma of Federal control and decrease the chances of political rather than educational decision making. Patterns of Federal funding should move away from quota systems, regional allocations, and head counting. After those programs which are truly pilot and "cutting edge" have been sufficiently tested and become ready for large-scale service, they should be made available as rapidly as possible to all agencies capable of applying them. Federal educational dollars for program development should be taken out of the pork barrel.

Sixth and *seventh* concern the status of teachers. Who should teach, and how should they be prepared? We must learn to use paraprofessional manpower more efficiently in the educational process. Currently, virtually no elementary teachers are trained to work with other teachers and to use paraprofessionals effectively. Ways must be found to train professionals and paraprofessionals as teaching teams, so that each understands the other. This is particularly important where they come from different ethnic and class backgrounds. Career development for both professionals and paraprofessionals has begun for Head Start and Follow Through paraprofessionals, but needs to be enlarged and extended for people not involved in present Federal programs.

The content of teacher education needs revision. Our old discussions have centered around personal development versus a set of skills, methods versus content, the internship, and the proper mix of theory and practice. Generally, these discussions have been bitter, unproductive, and unrelated to empirical data. Unfortunately, research on teaching has not demonstrated a clear-cut picture of the "effective" teacher. One reason we cannot make clear statements is because the service and training programs funded previously by the Congress have provided insufficient evaluation funds. We can never answer the question of how teachers should be prepared until we are willing to invest in investigation. We know that accumulation of credits in college subject-matter or education courses relates hardly at all to effective classroom behavior. Yet, the college course has been our traditional model. We should invest considerable funds in redesigning our teacher education programs, both at the preservice and inservice level, for all those who will function in the classroom from paraprofessional to specialist.

Federal support should go to those educational institutions and school districts which not only plan their programs in detail, but also plan to describe the relationships of program components, teacher and pupil classroom behavior, and pupil achievement. The current state of the art of multivariate statistics and research design is such that this can be done. It should be launched on a competitive proposal basis by those universities and other teacher education institutions which seriously wish to investigate the question and which presently have the capability and the responsibility for training teachers. We do not need new organizations; we need effective funding and prodding of present institutions.

Eighth, what should be the nature and scope of "ancillary" services? Traditionally, school boards have not been vitally concerned with medical services for pupils, psychological services beyond diagnosis, social welfare services beyond those affecting absenteeism. The experiences of Head Start and Follow Through have indicated the tremendous value of comprehensive services for "disadvantaged" children. These comprehensive services can also be vital in the educational development of the large mass of middle-class children in the American schools. The question is: When is a frill not a frill? The family circumstances—housing, income, size, job pattern, emotional stability—are all variables which influence the intellectual and personal development of the child. Thus, they cannot be ignored or left to chance. What should be the limits of Federal support for these services for all children? Where should those legally charged with educational responsibilities stop and other agencies enter? How can we systematize the work of the various agencies? Pilot projects attempting to explore these issues and test them empirically should be funded in the coming decade. Such questions as, What are the "noneducational" needs of all American youth? How should these services be delivered? Who should be responsible? What difference does delivery make in educational achievement? can and should be attacked.

Ninth, throughout this paper I have referred to evaluation. No program should be funded without an adequate evaluation design. Until we insist that those who seek Federal project funds accept the responsibility to demonstrate whether the money was used effectively, we shall waste a considerable portion of the Federal education dollar. But there are a number of hard issues. In order to evaluate something, one must have yardsticks and goals. Who should determine the goals and what should be used as measuring rods? Standard achievement tests are not adequate measures for many of the goals we might seek and for many of the children in school. There has been a considerable push toward writing "behavioral objectives," but many of these efforts use huge energies of teacher time in trivial fashion. Should our goals be personal development, intellectual achievement, social change, or a mix of all three? The former separation of cognitive (intellectual) and affective (emotional) goals with a concentration on the former in curriculum programs seems to be ending as we realize more and more that decisions and behavior embody both.

Three requirements emerge: (1) funding to develop effective processes for stating and evaluating goal attainment, (2) substantial funding for evaluation in all projects described above, and (3) continued funding for the training of evaluators at both the undergraduate and graduate level. In relation to the first requirement, if we are to urge school systems and universities to develop adequate proposals for meeting the issues of the 1970's, then their personnel need help in learning how to formulate their goals and how to think about ways to evaluate. They do not need package answers, but they need to be taught procedures involved in stating goals, programs, and measures. Very few school system personnel and few professors in our universities are able to do this at the present time. Siphoning off technically skilled personnel to R and D Centers and regional labs removed the very people from the university and school system framework who possessed a modicum of skill and isolated them from the people whom they should be serving. We should examine the policy of setting up new organizations because of the effects they have on scarce manpower. I would urge that we invest heavily in the methodology of programmatic research in substantive fields.

The *tenth* issue is the role of basic research. Our current knowledge is inadequate about learning and instruction, about program design, and about curriculum development. We are unable to answer with any degree of certitude questions about the effect of television on children's learning and behavior. We know even less, in any systematic fashion, about the effects of Title I programs, general school programs, computer-assisted instruction, community action, etc. Our knowledge of the effects that family life variables have upon the behavior, attitudes, and development of children are meager. A recent NIMH analysis by Yarrow, *et al.*, suggests that we still know very little about the specific effects of patterns of child rearing on the behavior and development of children. Basic research, therefore, is needed, including research on methodology. Generally, purely methodological studies have not been well funded either through the U.S. Office of Education or the National Institutes of Health and Mental Health, but they are basic to the solution of many of our problems. If we cannot design adequately and measure effectively, then we will be unable to know if and why any of our efforts have succeeded.

We need careful studies embedded in the service programs as well as separate basic field research. We need to develop funding patterns so that as a part of a teacher education process, or a curriculum development design, or an investigation of a delivery system such as T.V., small careful bits of work can be done. In effect, this is a piggyback arrangement of research on a service program. At the present time it is extremely difficult to receive adequate support for such efforts. We should encourage research workers to utilize other programs and to build their work into ongoing field studies.

Funds are needed to train basic researchers. An effective procedure for training is the utilization of graduate students in ongoing research efforts in universities and schools. Through the allocation of Federal funds we should encourage graduate assistantships and research assistantships as major training vehicles, in preference to fellowship programs. Most fellowship programs are course and theory oriented and do not provide students with practical research experience in the field setting in which they will eventually work. The training of educational basic researchers should require participation in research in school settings and other educational settings off campus as a fundamental part of the program.

If we broaden our definitions and our activities as suggested in this paper beyond the classroom building, then we must increase the safeguards for noninvasion of privacy and for strict adherence to appropriate professional ethics. The National Institutes of Health requirement of a careful review to be sure no possible unavoidable harm can be done in experimentation on humans in the medical field should be used as a model in education. Parents, teachers, and students should be informed as much as possible about the nature of programs and should be given as much choice as possible as to whether they wish to participate. This should be particularly true in innovative work where it is not clear what the outcomes may be. Although one can raise serious scientific objections to the use of volunteers, the concern for the person should always be primary in any of our efforts.

CONCLUSION

It is impossible here to do more than outline some of the issues. Since all relate to each other, a basic policy commitment should be made in favor of comprehensive rather than piecemeal program development. Funds should go to programs, institutions, agencies which develop comprehensive attacks on a variety of these issues. Longitudinal, comprehensive, programmatic investigation with clear ramifications across many of the ten issues should be encouraged. Support must be given long enough, in large enough sums, so that programs can be developed and tested for a sufficient period of time to yield the best picture of just what it is they do, and what unforeseen side effects they have.

We need more inter-agency cooperation so that a single comprehensive project can be funded by several agencies within HEW or in combination with other departments, such as HUD and Labor, without forcing the program developers to write separate pieces using separate budget, guideline, and narrative styles in order to develop a comprehensive attack. To one outside of government there seems little logic in some of the high walls between agencies.

Funding policies should be developed to encourage established institutions to explore new ways of working rather than to create new "labs" which use scarce dollars and talent. Most likely, the best investigations come from an individual or from a small group of researchers who choose to work together and design efforts around their own perspectives. This is in opposition to creating a general plan for a research lab and employing "hired hands" to do the work. Clusters of interested, competent people will grow around a research effort through choice rather than through even high pressure recruiting practices. Further, fundamental lasting change has to occur in the established institutions. It is far easier for them to slough off effects or the input from new agencies, if no basic changes occur in their own organization.

Those who create policies must also recognize the fact that results are usually not instant but developmental. Requirements for quick change or large-scale growth impose obligations and hazards on program development. It is far better to recognize that good programs take time to evolve and even more time to show lasting results.

To best meet these ten issues, continued Federal support, rather than block grants to states, will be the most effective vehicle. Federal support should be for programs rather than sprinkled in small doses to each school district. There should be a careful selection of systematic approaches rather than political or regional allocation of funds. There should, in addition, be seed and risk money for pilot projects proposed by thoughtful investigators, even though they seem quite removed from traditional approaches. The investment in brains may be even more important than the total number of dollars expended.

We enter the 1970's with a set of at least the 10 issues raised at the beginning of this paper. No doubt we will leave the decade with the same set of issues. Hopefully, with sufficient programs, research, and evaluation, we may be asking these questions in newer and more sophisticated ways. We may have some sets of answers to enable us to approach the 1980's with confidence.

THE PHYSICAL NEEDS OF ELEMENTARY AND SECONDARY EDUCATION FOR THE SEVENTIES

Harold B. Gores, President, Educational Facilities Laboratories, New York, N.Y.

Granting at the outset that people are more important than bricks, education's physical needs are nevertheless of important concern. Though the cost of building a new schoolhouse amounts to only about 6 percent of the cost of conducting the school over the period of its normal life, the fact remains that the building of schools and colleges in this country is an $8 billion business.

Authorities differ as to the influence of environment on what children learn in school. But the estimate of Dr. Harry Johnson, Director of the Life Extension Institute, with respect to the relation of quality of environment to the productivity of office workers is relevant. He estimates a 15 percent difference in productivity.

But with or without hard data to prove that the environment for learning makes an important difference, new schools will continue to be built if only because the people want them. The United States government will increasingly become a partner in the design and construction of schools in the seventies. It is important, therefore, that the government's role be one of constructive leadership and not just as silent partner to the local tax collector.

Education is changing rapidly and the schoolhouse is having to respond. Indeed in some alert communities, and in at least one state, schoolhouse design and construction is ahead of both educational change and building technology in other building types, notably housing, hospitals, and government construction, generally.

The following table displays graphically what in my view are the major directions of educational change. By 1980 most of these changes will have become commonplace except possibly in our biggest cities.

In the past	*For the future*
From:	To:
1. Central control	1. Decentralized subsystem
2. Monolithic organization	2. A constellation of autonomous satellites
3. The separate schoolhouse serving only children	3. The community school serving everyone
4. 1,000 hours of service a year	4. 4,000 hours a year
5. 190 days a year	5. 300 days a year
6. Education only in schoolhouses	6. Education wherever the people are
7. Wait for new school buildings	7. Convert existing commercial buildings
8. Wait six years from commitment to occupancy	8. Fast-track planning in two years
9. Handcrafted construction	9. Industrialized building systems
10. Designed to defend against children and neighbors	10. Designed around trust of children and neighbors
11. Hard and reverberative	11. Soft and quiet
12. Designed for winter	12. Designed for summer and winter
13. Single sources of capital funds	13. Many sources of capital funds
14. Planned by educators and architects	14. Planned by all agencies of community planning including the local citizens
15. Schools built one at a time	15. Schools built simultaneously to increase volume
16. Schools as separate institutions	16. Schools planned in the context of a fragment of the city
17. Windowless schools turning their back on the neighborhood	17. Schools designed to reach out and welcome
18. Materials promising low maintenance, custody and maximum security	18. Materials of warmth, texture, amenity, and beauty, nourishing the human spirit
19. Schools standing alone	19. Schools sharing buildings with other compatible enterprises, public and private
20. Low quality, inflexible space, and little value upon abandonment	20. High quality, flexible space, and high resale value

If the above be accurate, it would behoove the Federal government to increase its concern and participation in the building of schools. Communities, States, and the Federal government, itself, continue to promise more education to more people. Two whole, new populations have reason to expect to be educated at public expense—the urban three- and four-year-olds at one end, and the "open enrollment" community colleges at the other. In addition, schools will increasingly become community centers serving persons of all ages including the lonely aged. Unless there is substantial building in the seventies—and of a different kind than in our agrarian past—the nation will have another instance of "Promises!—Promises!"

As education itself changes and as the relationship of the schoolhouse to its community changes, the Federal government, in my view, should increase its concern and support for the following:

1. Strengthen that section of the U.S. Office of Education responsible for leadership in school design, construction, and finance.

2. Encourage the entrance of the private sector. (The recent acceptance of for-profit corporations in the preparation of some 21 million school lunches daily is a step in the right direction.) Let the marketplace determine who is serving the children best. (My observation is that many schools are attempting to do for themselves what the private sector, if given a chance, could do better and more economically.)

3. Accept and support industrialized building systems. As we enter the decade of the seventies, thanks to the efforts of a small foundation, the schoolhouse leads all other building types in its technology. The Federal government would do well not only to extend the present state of the art but to adapt this technology to the many building types, other than schools, in which the Federal government invests—e.g., housing, hospitals, post offices, office buildings, and the military. Documentation of the efficacy of modular pre-engineered components is already apparent in schools built in California under the School Construction Systems Development, the schools under construction by the Metropolitan Toronto School Board, and in the State of Florida where one-fourth of the schools built in the State this year are systems designed. It is not accidental that Florida passed its school bond issue last November while school bond issues were failing generally over the country. The Floridians knew they were getting their money's worth. Their last bids showed an escalation of 2 cents a square foot in a six-month period when the escalation of nonsystems construction was 8.1 percent. Speaking as a citizen, I consider it incumbent on the Federal government to drag this country, kicking and screaming, into the last quarter of this century. The models exist. We lack only the will.

4. Support new art forms. Education is discovering that it can prosper in spaces never designed originally for education. Especially in our inner cities, education will have to take place in buildings converted from their original use, and in buildings designed in concert with another tenant. The New York City schools are already committed to over $200 million of joint occupancy facilities. Joint occupancy—e.g., schooling and housing—makes both educational and economic sense. Education in the central cities in the seventies must

become both decentralized and nomadic. Joint occupancy enables a big city school system to ebb and flow with the demographic tides.

5. Support the renewal and conversion of existing structures. While this will pose complex financial arrangements, it will enable the central cities to respond more sensitively to immediate needs. Typically, it takes New York City seven years to complete and occupy a schoolhouse from the day it is committed to the budget. Other big cities are not conspicuously faster. If the big cities are to learn how to fast-track their planning and meet their pressing needs, two ingredients must be added: leadership from Washington, and the resources of the Federal fisc.

It would be presumptuous of me to suggest how many billions of dollars should be spent on these matters. As a citizen and as one whose work is concerned with the environment of education, I would much prefer that the Federal government constitute a cadre of persons competent to set a goal for the nation's schools. That is why my first recommendation is to strengthen the U.S. Office of Education in this regard.

EDUCATION FOR THE SEVENTIES

Daniel E. Griffiths, Dean, School of Education, New York University, New York, N.Y.

The major need which confronts American education in the seventies is not money, nor buildings, nor manpower, but is, rather, the need for a totally new conception of the educational system. The basic conception that underlies the organization and administration of education in this country is the "mass production" model which has been used so effectively in the business and industries of Western Civilization.[1] As McDonald points out:

> In this conception, certain kinds of units are to be produced on a systematic and regular basis. In order to produce these units, resources are concentrated in strategic locations. . . . A school assembles 600 or more children in one very restricted location. Such an arrangement facilitates the processing of these children because the resources necessary to educate them are concentrated in these areas also.[2]

There are other necessary conditions to the mass production model. It is necessary to assume that the children will all benefit from the same type of educational program. Teachers must be interchangeable—a school system will hire 100 elementary school teachers and place them where there are "openings." Children must be considered to be alike in essential characteristics and differ only superficially. When one believes that these conditions prevail, then he can believe that the mechanistic, mass production model, our American system of education, can be and, in fact is, efficient.

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[1] A number of men have described this educational model: Frank E. Spaulding, "The Application of the Principals of Scientific Management," National Education Association, *Journal of Addresses and Proceedings*, 1913; Elwood P. Cubberley, *Public School Administration* (Boston: Houghton Mifflin Co., 1916), p. 338; Daniel E. Griffiths in Jack Culbertson and Stephen Hencley (eds.) *Educational Research: New Perspectives* (Danville, Ill. Interstate, 1963), pp. 121–140; and most recently Frederick J. McDonald in Alvin Toffler (ed.), *The Schoolhouse in the City* (New York: Frederick A. Praeger, 1968), p. 231.

[2] McDonald, Ibid.

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One does not, however, need a great deal of knowledge or insight to know that these assumptions are not valid and that the school system which America has built upon them is not efficient. It does not produce people who are ready to participate in the modern technological, urban society of today, let alone the society of the seventies.

It is true that changes have been made as challenges have arisen, but these have not affected the basic conception of education. If one could strip aside the veneer of teaching machines, textbooks, TV, and modern buildings, the purpose of education would be revealed naked, unchanged from the days of Ichabod Crane. The single overpowering need for the seventies is to rethink the purposes, the aims, and objectives of education and to devise a new structure and substance to meet the purposes.

The briefness of this paper prevents the full explication of each point; therefore, the major tenets will be handled with dispatch. This paper starts with a short description of the predicted social scene of the seventies, out of which the purposes of education are derived, followed by suggested changes that would make education more consonant with social realities.

THE SEVENTIES

The general outline of the seventies is with us now and one does not need to be a seer to depict the social life of the next decade. The salient characteristics of the society of the seventies will most likely be: the increasing significance of complex organizations, the increasing density of population, increasing depersonalization, increasing infantilism of youth, and increasing heterogeneity. These characteristics will generate more and more alienation between the young and society, particularly if little or nothing is done to change the educational system.

Complex Organization

Probably the most significant characteristic of modern life is the fact that society is dominated by large, complex organizations. Never were John Donne's words so true as they are today, "No man is an Island, entire of itself." Everyone is either a member of and/or has his life shaped, influenced and controlled by complex organizations. School systems, transportation authorities, churches, stores, labor unions, the industrial giants such as General Motors, IBM, Xerox, General Electric and Westinghouse and the Local, State, and Federal governments are all large, complex organizations which modify and shape the way everyone lives. People in the seventies will do less and less as individuals and more and more as members of organizations.

These organizations, regardless of their purpose, are bureaucracies with certain well-known characteristics. They are:

1. Governed by principles of hierarchy and levels of graded authority that ensure a firmly ordered system of super- and subordination in which higher offices supervise lower ones.
2. Restricted to fixed and official jurisdictional areas, regularly ordered by rules, policies, regulations, and by-laws.

3. Administered by full-time, trained officials who base their work on written documents which include stable and comprehensive general policies.[3]

Presthus' major premise is that living in these large bureaucratic organizations induces anxieties in their members simply because of their fundamental characteristics. Size, for instance, becomes a factor when an organization becomes so large that any given member does not have face-to-face contact with most other members. The larger the organization, the lower morale drops as individuals tend to feel unimportant.

As organizations increase in size and complexity, members must begin to specialize. Such division of labor has both advantages and disadvantages. On the one hand, the technical quality of the work improves. On the other hand, interpersonal relationships deteriorate; so also does the sense of identification with the organization.

The importance of status and status symbols is well known. The organization constantly reminds members of their status by the way it distributes salaries, offices, expense accounts, vacations, staff, secretarial help, and titles.

Most bureaucracies are run by a few people; thus they are oligarchies. The "few" are set off from the rest by their "preponderance of power." Their presence in an organization constantly reminds the members that here is a small group with more power than all the others combined. Their presence tends to accentuate the anxieties of the other members.

People react in different ways to the anxiety that the complex organization creates in them, but all of the accommodations they develop are either destructive to themselves or to society. One of the major failures of the American school system has been its indifference to the nature of the society for which it is preparing its students. The major element of that society is the complex organization.[4]

The mythology of America which is perpetuated by the public schools and the mass media is that of the frontiersman, sort of a cross between Davy Crockett and the Lone Ranger. The frontiersman must be replaced by the image of a man who can be strong and healthy in the midst of many organizations, a man who is able to bend organizations to his will rather than to be broken by them. Vast numbers of men are needed who understand organizations and who can make organizations work to bring the better life to all.

Density of population

A second characteristic of modern society is the fact that large numbers of people live close together. This has always been an urban earmark, but the trend is towards higher and higher density of population. Americans live very badly in their densely populated areas. This is partially due to the fact that habits of cleanliness and consideration for others are not developed by any of our institutions, particularly our schools. It is also due to the fact that population increase is paralleled by increases in industrialization, more automobiles, jet airplanes, detergents, and insecticides, all of which pollute the environment. Even if America did as good a job of social education as does England, France, or Germany, the density of our population and high level of industrial development would still result in a polluted, anxiety-inducing environment.

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[3] **Robert Presthus, *The Organizational Society*, New York: Alfred A. Knopf, Inc., 1962.**

[4] **The conclusion concerning the effect of organizations on individuals are from Presthus, *op. cit.***

Civilization becoming depersonalized

Whereas the school is a highly personalized institution with students in constant face-to-face relationships with teachers, the society is becoming less and less personalized. We see our national, State, and, in some places, Local leaders only on TV or as they are pictured in the newspapers. The trend, for instance, is toward seeing presidents less and less frequently. Numbers are replacing names and this is a depersonalizing influence. The IBM card has become the symbol of the American culture. It and the rest of the paper used in America lead some to believe that our era should be called the *Paper Age*.

Prolonged infantilism

What was once seen as a uniquely American educational strength, a prolonged period of schooling, is now seen as a major cause of social unrest. Charles DeCarlo, President of Sarah Lawrence College, is one of many who have noted this development. As he explains,

> We have been lengthening the formal education process until it is now commonplace for students to continue on through graduate school. This means that a student may be anywhere from 23 to 28 before he's really a member of society. In effect, he's outside the system and remains a child until a relatively advanced age. We give him years of learning, during which he contributes nothing but presumably acquires respect for the traditional values and the virtues of society.

However, DeCarlo points out, when he reenters society and bumps against the realities of the hydrogen bomb, napalm, brainwashing, defoliation, pacification, and the "panoply of cruelty unleashed by misused science," he may become completely unhinged. He is apt to undergo what the psychologists call an "identity crisis," become susceptible to the hippie movement, and side with oppressed people. "The danger here," says DeCarlo, "is that when you're isolated so long from responsibility, you tend to see all problems as almost too large to attack. This erodes both confidence and the willingness to contribute responsibility by mastering a specialization."[5]

The homogeneous society

The achieving of a more homogeneous society racially, financially, socially and culturally—is more of a hope than a prediction. Certainly it is not now present to the same extent as the previously mentioned characteristics. Its achievement, however, is vitally important to the future of America and while the schools cannot achieve this goal by themselves they must participate in its achievement.

American education must face the realities of preparing people to cope with an anxiety-inducing organizational society which is becoming more and more clogged with people and the refuse created by their affluence and industrialization. The society of the seventies poses difficult human problems: depersonalization, need for a high level of general education which allows people to learn several specializations in a lifetime, the need to offset the infantilism of prolonged schooling and, possibly the most difficult of all, the need to learn how to teach the culturally, socially, and economically deprived so that they may achive first-class citizenship in this country.

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[5] "The System Has Got to Go," *College Management*, Vol. 3, Nos. 6–8, June/July/August 1968, p. 14.

A PLAN FOR THE SEVENTIES

Any plan for education in the seventies should be focused on the nature of the society in which the products of the schools will live, should contribute to remedying the obvious shortcomings of the present system, and should be shaped on a dynamic, vital model. The ideas which follow should not be construed as all-inclusive nor are they presented with any dogmatic assurance. They should be construed as ideas to open a discussion out of which might evolve a more appropriate educational system.

All of these suggestions are made with the full awareness that much more needs to be known about the basic processes of teaching and learning. The need for more research is overwhelming. Contrary to what many say, the country does not have all the research knowledge it needs to build a fine educational system.

It is recommended that expenditures for educational research be multiplied by at least a factor of five by 1980.

Structural changes

The American school "system" is a patchwork quilt of historical accidents. It should be replaced by a carefully devised plan which draws upon the best thinking and experience in the world and which is appropirate for the modern urban industrialized society of the seventies.

It is recommended that the English approach to organizing education be seriously considered as a model for the reorganization of American education.

The English approach to education is to have a national system administered locally. The country is organized into large Local authorities which *provide* for education at the Local level, and educationally autonomous schools within the authorities. The national government and the Local authorities raise the money for programs of education which are supported at approximately the same financial levels throughout the country. Each authority is governed by a committee of the county or borough council. The administrators in the national government and the Local authorities have little or nothing to say as to what or how anything is to be taught. What is taught in a school is decided by the headmaster and teachers with a minimum of consultation with their Local board. Each school or combination of two or three schools is governed by a board politically chosen. All boards have "added" members chosen because of their expertise. The curriculum is, however, influenced by inspectors both national and Local, the university entrance exam selected by the secondary school, and curriculum movements such as those of the Schools Council. The schools are educationally autonomous to a degree not dreamt of in the United States and so are better able to meet Local educational needs.

The following recommendations flow from the English model and should be considered as the basis for the discussion which might result in the restructuring of American education.

1. *The governance of American schools should move from "non-political" to "political."*

People should be elected to governing boards as members of a political party or education could be governed by a Committee of the Common Council or a comparable body. As a result, the governing party would be held responsible for the condition of education. Further, the partisan nature of boards will cause arguments to be stated in extreme forms so that the public will be able to see the issues more clearly and be able to forecast consequences more precisely. There is a trend in this direction at present and it should be encouraged and accelerated.

2. *American boards of education should adopt the "added members" concept.*

Whether Recommendation 1 is adopted or not, American boards of education should make use of the added member concept and include in their membership teachers and other persons who have a high degree of skill and knowledge in education.

3. *American school districts should move in the direction of separating management and education so that they approach a "system which provides for education" rather than being an "educational system."*

4. *Each individual school should have educational autonomy with its educational philosophy and curriculum determined by its board of governors, teachers, and principals.*

5. *Each district should be divided into an appropriate number of divisions, each with a divisional officer, so that necessary management services can be provided to schools with an absolute minimum of delay.*

6. *There should be a unit known as educational advisors attached to the central office whose function it would be to stimulate innovation and encourage the use of the most advanced educational practices.*

The major responsibility for quality, external to the schools, rests with these advisors. Their influence would be limited to persuasion and their authority would be that of superior knowledge.

The four propositions (3,4,5,6) should be discussed as a group and adopted or rejected as a group, since one without the others would result in chaos. These recommendations would decentralize schools educationally, but would keep management functions such as recruitment of personnel, purchasing, maintenance, planning, and construction of school buildings in the central office where they can be done more efficiently.

7. *All schools—public, private, parochial, vocational—from nursery through junior college should be under the jurisdiction of the Local board.*

In a sense, this becomes possible if Proposition 4 is adopted, since a school is free to have the educational philosophy and curriculum it desires. America is moving away from a democratic school system because of attempts to integrate schools, the multiplication of religiously based and other private schools, and the stratification of social classes. All schools should have the same financial support, which means that all pupils in a given city would have comparable facilities and that all teachers would be paid the same. At the same time, educational experimentation should be maximized, since every school must develop its own program.

8. *Every school district should be very large and each school should be very small.*

The total population of a school district should not be smaller than 500,000 with no maximum stated. With the function of the district restricted to providing for education, there is no limit to the size to which it can grow, since in all probability managerial efficiency is directly proportional to size. However, schools should be severely restricted in their size, since size is probably inversely related to educational efficiency and to the pupils' social development. Elementary schools should probably range from 2 to 300 pupils while secondary schools should not exceed 1200. Secondary schools should employ the house plan for internal organization with each "house" not exceeding 300 pupils. All social, athletic, and guidance activities should be based on the house. Each school would then have an academic organization and a social organization.

9. *Each district should create an autonomous reesarch and development center.*

These R & D centers would be funded by the Federal government and their independence would be maximized. Their function would be to develop improved methods and materials for instruction and involve teachers in the development of new curricula. The use of such products would not be mandatory, but schools would be urged to upgrade their programs constantly.

10. *The Federal government should assume responsibility for the financing of education.*

Since what is being advocated is the establishment of a national system administered locally, it is essential that the Federal government assume responsibility for financing the system. This could be accomplished by setting a floor below which educational expenditures could not fall and financing that level. The States or localities could exceed the level at their own expense.

Substantive changes

The structural changes described above are essential, but these must be accompanied by extensive changes in the substance of education. These changes are necessary at all levels and many are of such a nature as to change education drastically.

Education of the culturally deprived.—Although some $4.3 billion has been expended in the past four years on Title I of the Elementary and Secondary Education Act of 1965, the results have been disappointing. This should have been predicted in view of available research and the experience of other countries. Lower class, culturally, socially and economically deprived children do not receive the preparation in their homes comparable to that received by middle-class children. Anastasiow summarizes the bulk of research on this topic by saying; [6]

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[6] Nicholas Anastasiow, "Educational Relevance and Jensen's Conclusions," *Phi Delta Kappan* (Sept. 1969), Vol LI, No. 1, p. 32.

> When the lower class child begins school, he is usually required to act as if he has already mastered the necessary prerequisites for verbally oriented group instruction, though in fact he has not because the socialization process—particularly of the Negro—has not so prepared him. . . . Isolated from the main stream of America, many poverty mothers have not been provided with the necessary techniques to maximize their children's intellectual potential.

What is called for is an entirely different approach to the education of young poverty children. The experience of the Israelis, the Russians and, to some extent, the English would lead to proposing that the children of the poor be sent to special boarding schools at a very early age, possibly six months to a year. These schools would provide the educational environment, intellectual stimulation, nutrition, health care, and the loving attention of skilled nurses, teachers, and aides that would make the preschool years of the poor comparable to that of the middle class. It is no exaggeration that the homes of many of the middle-class children are veritable educational factories with small libraries, hi-fi music, literate well-educated parents, good food, and the best of medical care. The boarding schools would differ this to the children of the poor. Programs would need to be developed to involve the parents and train them so as to assure a good home for the children when they are ready for formal education.

A second approach has not been tried anywhere, but it might be more acceptable in the United States than the boarding school. This would involve a tremendous training program of families of the poor *in their homes*. A corps of teachers would need to be trained and assigned to blocks or low-cost housing projects. Their educational objective would be to duplicate, to the extent possible, the educational environment of the middle-class child. While this approach might cost more than the boarding school concept, it would probably have more of an educational payoff, since the family and the home would be improved as the children receive the training necessary to prepare them for school. A program combining the boarding school with the home education concept would, of course, be a third approach.

Compression of Time. There has been, over the years, a continual increase in the length of time spent in educational institutions. Many factors, most of which are not now relevant, have contributed to the lengthening: the Great Depression with the demand that adolescents be kept off the streets, the short school day and school year because youth in rural America had farm chores in the morning and evening and had to plant and harvest crops in the summer, the creation of artificial educational requirements for positions simply because there were more applicants than jobs, and the increase in knowledge which is required for everyday living. The final reason is valid, but with the short school day and year, any expansion in schooling must be done by lengthening the period of years spent in school. Some simple arithmetic puts the problem in perspective: children start school at six, spend 12 years in public school, and leave at 18. If then they spend four years in college and two in the military, they are then 24. If they go into a profession, they spend from one to three years in graduate education. They do not go to work until the age of 25 to 27. (What is happening at the other end of this age scale cannot be ignored. More and more people are retiring at 55 to 60 years of age so that the country is being put into a real manpower squeeze.)

All this adds up to one conclusion: *It is recommended that the years spent in formal education be radically compressed.*[7]

The first compression should take place by lengthening the school day and the school year. There is no reason at all why children in Harlem or any other urban area should go to school on a schedule devised for farm children. The school day could easily be increased by two hours which would result in 400 additional hours of instruction per school year. An additional 140 hours could be gained by operating schools on a 12-month year with children and staff having an 11-month year with staggered vacation periods. The 540 hours are equivalent to 77 seven-hour days or 108 five-hour school days. The latter figure means that by expanding the school day and year, the time available for instruction would be increased by 50 percent. Not all of this time could be used to reduce the number of years spent in the public schools, but some of it could be; say, the 12 years could be compressed into 10 years. (In the deprived areas, the additional time could well be used to improve achievement.) In other areas students could either start college work in local community colleges or the high schools could undertake the first two years of college. The students would live at home during this time and enter college at the age of 18 with half of their work completed. The colleges could then grant the bachelor's degree at the age of 20 and students could start productive work two years earlier than at present. This method of compression is entirely feasible and it would help to solve the problems many colleges are having with the first two years of work. High school instruction has improved so much of late that the colleges are having difficulty in challenging students during the general education segment (the first two years) of their program.

The alternative to the above plan, also feasible, would be to have students start college at the age of 16. The colleges might have more trouble adjusting to this than the plan described above and the total cost to the country would be higher, but it would still have the advantage of cutting two years from the formal education ladder.

Certainly, the issue of compression should receive the benefit of national debate. While no panacea, it might well contribute to solving such problems as the teacher shortage, student unrest, manpower shortages, cost of education, and the undergraduate curriculum.

Total environment.—While not a popular statement to make, it is very probably true that most of the problems which children face are problems of the total environment, not of schooling in the narrow or formal sense. What is needed is a new type of education for citizenship in the urban, technological, organizational society of the seventies. The curriculum should span the years of lower education (what would now encompass grades K–12) and should incorporate a wide variety of ideas.

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[7] An excellent discussion of this point is to be found in "An Interview with Lt. Governor Malcolm Wilson about Education—Quality, Cost and Financing," *Monitor*, Vol. LV, No. 4 (Nov., Dec. 1969), pp. 7–10, 18.

Environmental education should form one of the bases for the new citizenship program.[8] The technological solution to air, water, and sound pollution would be taught, but more than that the *desire* to solve environment problems would be developed.

Organizational education should form another base. Not only should the study of complex organizations become an integral part of the conventional social studies program, but every student should have work experiences concurrently with high school. DeCarlo, for instance, suggests that there be "valid work experiences for children in high school." [9] He comments that these should be for periods of three to six weeks in manufacturing plants, offices or stores. The range of organizations in which students work as interns could well be expanded to include all varieties and there might well be a work experience period of two to four weeks in each year of high school. Industries and schools could well form a partnership to develop and finance such a program.

The purpose of this experience is not to speed the socialization of students, but rather to teach students how to maintain their independence and self-respect in large organizations. Further, teachers and students should study ways in which the organization can be changed to make them more humane.

The total resources of the community should be used to educate children. The modern community is filled with educational institutions—museums, libraries, churches, parks, concert halls, social agencies, hospitals, and on and on which are rarely used for the education of children. A systematic effort should be made to catalogue the institutions and people and then to build teaching units which incorporate these into the educational program.

It is recommended that several large school districts be enlisted to develop an overall approach to a new citizenship education curriculum.

SUMMARY

An attempt is made in this paper to depict the society of the seventies as characterized by large, complex organizations, high density of population, depersonalization, infantilism, and heterogeneity. The case for a national system of education was presented with resultant changes in structure enumerated. Basic innovations such as the boarding school or family education for the disadvantaged, compression of education, and a new approach to citizenship education were advocated.

None of the recommendations is made dogmatically, but rather they are advanced with a tentativeness that should properly precede a period of national discussion. The idea that the educators of this country need far more knowledge than they now have is basic to this paper. It is hoped that new policies and research will emerge in the seventies.

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[8] James Swan. "The Challenge of Environmental Education," *Phi Delta Kappan,* Vol LI, No. 1 (Sept. 1969), pp. 26–28.

[9] DeCarlo, *op. cit.*

A NATIONAL STRATEGY FOR EDUCATIONAL CHANGE

Egon G. Guba, Associate Dean for Academic Affairs, School of Education, Indiana University, Bloomington, Ind.

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PLANNING FOR THE SCHOOLS OF THE SEVENTIES

It seems obvious that the schools of the seventies will be substantially different from those of the sixties. In part this is true because schools, like all formal organizations, are continually undergoing evolutionary change, and there is no reason to doubt that this evolutionary process will continue for another decade. Moreover, a variety of change agents, such as the administrative officials of the schools, themselves, their publics (both organized and not), their users, their accrediting agencies, and the like see to it that school programs undergo continuous revision and refinement as needs or clientele change; such adjustive or regulative changes are aggregated with evolutionary changes to produce greater effects than either would produce alone.

If schools were essentially sound institutions whose programs were generally effective and efficient, there would be little reason to go beyond evolution and adjustment/regulation as mechanisms for change. But only a minority of persons is willing to make such an assumption about the schools of the sixties. Even the most avid defenders of the present system of schooling are obligated to admit that the schools have serious shortcomings, while the most militant critics insist that the schools are corrupt and brutalizing. Many persons seem to feel that substantial changes will be required if the school is to survive as an effective social institution. Such changes can only come about through careful planning; they cannot be left to chance. In the face of the current situation, the possibility, however slim it may be, that educational planning can *optimize* the future, i.e., select out that future which we prefer from among alternative futures that might conceivably emerge, must be vigorously pursued. What is needed is one or more *constructed futures* based upon the best available intelligence and capitalizing on available opportunities.

Whenever future planning is mentioned, someone is certain to assert that such an activity is fraudulent and illegitimate, particularly if the planning is to be supported by the Federal government. There is no doubt some basis for fearing possible Federal intervention. But I do not find the argument compelling, particularly if one can limit the Federal role to that of support for the *mechanism of planning* while maintaining a strict separatism with regard to the *substance* of the future that is being planned. I believe that it is both possible and desirable to construct an effective mechanism for this purpose, and it is the intent of this paper to present an outline for one.

SOME BARRIERS TO EDUCATIONAL IMPROVEMENT

Before moving to a consideration of such a mechanism, however, it may be useful to focus attention momentarily on some barriers that have prevented planned educational improvement from occurring heretofore. If there is such an urgent need for change, and if so many persons recognize this need, one may well wonder why effective proposals for change have not come forth. One must conclude that certain barriers have intervened. Plans for an effective mechanism obviously must avoid foundering on these same barriers and surely must include a strategy for dealing with them. What is the nature of these barriers?

One important barrier is the fact that there still are many persons who feel that the educational system is basically sound and requires no changing other than that brought about by adjustive or regulative means. I like to believe that such persons are a minority but they constitute an influential minority. The mechanism for change must certainly contain elements that will uncover and document the nature and seriousness of the problems confronting education to whatever extent may be necessary to persuade the doubters.

Another significant barrier has been the inability of the education profession to devise solutions to the problems confronting us that are worthy of consideration and warrantable to the profession. The depressing parade of "no significant differences" that characterize the professional literature is only one indication of this failure. The mechanism for change must be capable of focussing our best resources on our problems in order that viable solutions may emerge.

A third barrier may be traced to the lack of responsiveness of the profession to the problems of the practitioner *as he finds them.* We constantly urge the practitioner to try this or that new invention but rarely do we ask whether the invention is relevant to what it is that ails him. We have in fact made no systematic effort at *diagnosis* but only at *remediation;* it is as though a physician spent his time inventing medicines which he then prescribed for all without taking the time to discover what was wrong with his patients. We can hardly blame a patient for refusing medicine which is proferred so cavalierly. The mechanism must provide a means for determining the precise nature of the ailments and for selecting and providing suitable "medicines" for dealing with it.

A fourth factor, a cousin to the third, is the field's continuing disregard for the ultimate consumer of education's ministrations—the students and their community. These persons have a unique perspective on their own needs and problems and they also have the moral right to provide or to deny sanction to the school and its programs, but very few educationists take their inputs seriously. Community or student involvement generally has the ring of cooptation, e.g., getting the parents to pressure their children to do what the school wants them to do. Again we should not be surprised by their rejection in turn, nor at the fact that our efforts appear to them (and therefore really are) irrelevant. The proposed mechanism must provide routes for their inputs.

A fifth barrier arises from our failure to use wisely those resources that are available to us to effect change. Although billions of dollars have become available over the past several years, largely through Federal largesse, the profession has insisted on investing these resources mainly in "more of the same." Since these new funds add a total of only from 3 to 5 percent of what is otherwise spent for education, it is unreasonable to expect any massive breakthrough. If I already have 100 teachers, adding five more will make little difference, nor will the situation change much if I increase my library holdings from 100 books to 105. The money becoming available must be spent in *different* patterns if one is to expect any significant changes. The proposed mechanism must provide the opportunities for inventing and engineering such new patterns.

A sixth barrier is that we have not been successful in devising ways to evaluate either what we have done in the past or what we might do in the future. Despite the great emphasis which the Congress has placed on evaluation, evaluative data has not been forthcoming. This failure is due less to the reluctance of the profession to subject itself to evaluation than it is to the lack of appropriate evaluation methodolgy in instrumentation, as I have tried to document in other contexts. The mechanism must provide opportunities and means for effective evaluation.

A final barrier is our apparent inability to relate to education the many resources that *might be* available for facilitating change but which have for some reason not been brought to bear. The educationist establishment has not been able, for example, to tie industry to education in any productive way, despite Congressional mandate to do so and despite industry's evident interest and profit motivation. The reason for this failure is, I believe, that we have not found a way to state our problems in language that industry understands and can respond to, analogously to the way that an architect assists a potential home purchaser in translating his needs and desires into blueprints to which a builder knows how to respond. No agency has emerged to play this interpretive and modulating role; meanwhile resources of the education industry, publishing houses, etc., continue to be expended in more or less random ways. The proposed mechanism must take this problem into account and deal with it.

A PROPOSED MECHANISM FOR EDUCATIONAL CHANGE

Given the validity of the analysis above, what does constitute a reasonable mechanism for producing significant educational change? Such a mechanism will be neither simple nor inexpensive. However, it is possible and within the range of resources *that are now being spent.* A number of elements must be incorporated into this system:

A. *A utilization arm.*—The first essential is a local unit, in direct contact with the operating professional in the classroom or the administrative office. For want of a better name I shall refer to this unit as the *utilization arm*, nicknamed the "halfway house." This arm would have a number of tasks:

1. *It would depict local problems and needs.*—It is through this device that the local professional has the opportunity to become involved in making known his perceptions of problems and needs. Staff members of the halfway house would devise means to open and maintain communication with local professionals for this purpose. The object of the game would be to develop reported symptoms into a problem syndrome to which a response could later be made.

2. *It would serve as an input to another arm of the system which I shall describe later as the information domain.*

3. *It would accept inputs from still another arm of the system called the diffusion arm,* also described below. These inputs would be developed, tested, and demonstrated problem solutions. The solutions of concern to any particular local utilization arm would depend on the nature of the problems and needs which had previously been depicted in interaction with local professionals.

4. *It would assist the local professionals in local trial, installation, and debugging of problem solutions judged to have local utility.*—This local installation would include the training of personnel to use the solution.

5. In the event that solutions were not already available, or in the event that a particular problem had only local meaning or significance, the halfway house would *devise and test solutions directly.*

B. *An information arm.*—A second arm that is essential to a system for the stimulation of productive change is the *information arm,* which might also be thought of as a *conceptual resource center.* The functions of this arm would include:

1. *It would engage in the development of problem specification packages.*—I have already noted that the utilization arm would provide certain problem specification inputs to the information arm. Each of those information units would receive inputs from a number of halfway houses which would need to be aggregated into more generalizable form. The parameters of these problems would be specified in detail and in a form to which other agencies could respond. In this sense the information arm would correspond to the architect in my earlier analogy.

2. *It would engage in the development of information packages (modules) which relate to problems to be solved.*—There are a number of important sources of information and other inputs that are indispensable to pinpointing a problem and suggesting possible solutions. Obviously, what is needed is to bring to bear the best intelligence available. These sources include:

(*a*) *Research.*—Research information should be compiled into two kinds of modules or packages: (1) Modules that organize available knowledge along conceptual and theoretical lines, as, for example, modules relating to concepts like "reinforcement," "alienation," "utility function," and the like. (2) Modules that organize available knowledge along applied lines, as, for example, "teacher-learner interaction," "reading pathologies," "discipline," and the like. The former theoretical modules would probably have most utility for other researchers, while the latter would be of greatest value to practitioners, especially those who are engaged in inventing solutions to operational educational problems, as in the development arm described below. Both kinds of modules would be "pre-interpreted," that is, their understanding would *not* depend on the reader's prior knowledge or expertise in the area.

(*b*) *Practice, precedent, and experience.*—A knowledge of prevailing practice is essential when devising new solutions, if for no other reason than the excellent pedegogical one of knowing where to start.

(*c*) *Evaluative information.*—Some solutions have already been devised and have been, or are being, tested. It is obviously important to know what these solutions are and what their evaluations show.

(*d*) *Perspectives of other groups.*—It is apparent that problem specifications are incomplete without the perspective of those who suffer with the problem, including their community, and without the perspective of those other groups, e.g., sociologists, psychologists, economists, political scientists, attorneys, physicians, and the like, who have certain professional leverage.

3. *It would provide outputs to other arms in the system.*—The information arm having devised the information and problem specification packages referred to above would then make these available to other units who require this service. Included would be the development arm and the diffusion arm, all of which remain to be described.

C. *A development arm.*—So far we have been speaking only of problem identification, delineation of problem specifications, and marshalling of relevant information. Some agency has got to *come up* with a response or solution. This function is relegated to the development arm. Its tasks include:

1. *Designing a response.*—The task of *design* is to identify possible *alternative* responses or solutions and to determine the relative probability of success for each.

2. *Producing components called for in the design.*—The design must be sufficiently well explicated so that the component parts (including tactics) are clear. The development staff then has the task of physically producing the required parts—the materials, teaching strategies, organizational forms, or whatever may be required. Each of these *components* must be tested to be sure that it comes up to design specifications.

3. *Fabricate the components into a functioning system.*—When the parts are developed, they must be constructed into the system called for in the design.

4. *Field test the fabricated system.*—Just because carburetors, fuel pumps, distributors, and other components of an automobile power plant work well in isolation on a laboratory bench and under the best possible conditions is no indication that they will function well when assembled into an actual engine and exposed to the worst possible conditions of the real world. A further system evaluation is required to be sure that the design specifications for the *system* are met.

Thus far I have spoken of the functions of the development arm as though it would carry out these functions itself, i.e., from what I will call a posture of *direct intervention.* But there are several problems with this posture. First, direct intervention costs a lot of money, and new money is always hard to find. Second, direct intervention would not take best advantage of the many resources already available and being spent, more or less at random, by the education industry, a matter I have already mentioned. Hence it seems to me quite possible to conceive of a development agency which is not a direct intervener but a *modulator*. In this case the development arm would perhaps still engage directly in designing solutions, i.e., in identifying that best alternative response, but might then be concerned with engaging, even coopting, other existing resources including especially industry, in order to get that alternative produced and fabricated. The development agency might then field test the fabricated system. It might serve, by way of analogy, as an Underwriter's Agency which first lists specifications (the "code") and then tests products to be sure they meet the code—that is what we mean by "Underwriter's Label." The product that has the label is warranted to us and we may have whatever confidence in it that the code warrants.

D. *A diffusion arm.*—The final component of the system that I am describing I will call the *diffusion arm*. This arm has three functions:

1. *To inform the practitioner about available solutions and the nature of the problems which they are designed to ameliorate.*—The information and development arms of which I have spoken are far removed from everyday practice. Some agency must be concerned with communicating the results of the development activity back to the practitioner. Now it will be easy to confuse the function of this diffusion agency with that ordinarily ascribed to the sales arm in industry; they are parallel, perhaps, in the sense that both are concerned with contacting a "market," but the diffusion agency is less concerned with "selling" than it is with calling attention to viable solutions to operating problems. It opens a wider range of professional alternatives to the local practitioner.

2. *To demonstrate to the practitioner the operating characteristics of available solutions.*—The practitioner must have an opportunity to assess the utility of a proposed solution in an actual setting, preferably his own. This is the function of demonstration. Demonstrations, however mounted, must be credible and must give the potential adopter the opportunity to determine whether the solution fits *his* problem.

3. *To assist in the training of personnel who will actually operate the innovation.*—The diffusion arm has the responsibility for training the training staffs of utilization centers or halfway houses, which in turn train local staffs as part of the installation process.

I have summed up the elements of the system I have been describing in Figure 1. I assert that there must be an essentially circular flow among four basic components: the utilization arm or halfway house, the information arm, the development arm, and the diffusion arm. Each has certain particular functions as noted in the figure, and each has certain outputs for the next member of the chain. While the diagram does not show it, there is also a feedback channel that runs counter to the flow arrows which are shown; so, for example, there may be a feedback from a utilization unit to a diffusion unit about the relative utility of a particular solution in that local setting, from a development unit to an information unit about the relative adequacy of the information modules received or the range of solution alternatives that are delineated, etc.

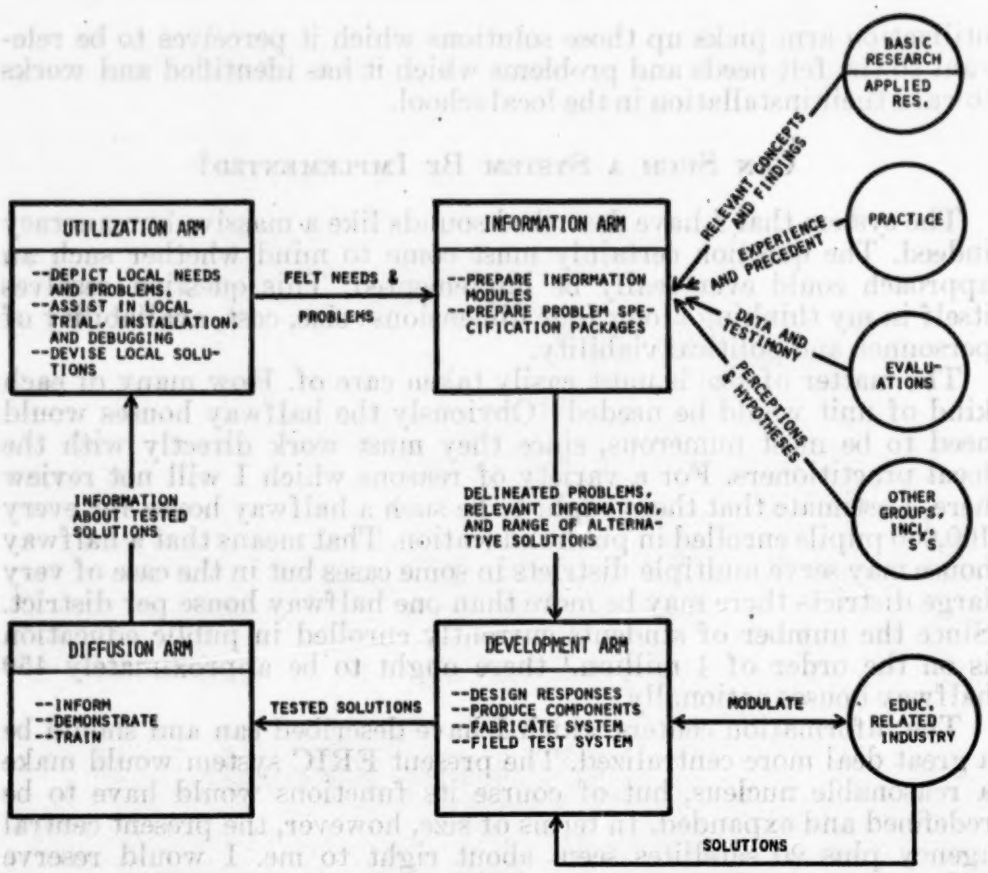
BASIC RESEARCH
APPLIED RES.
PRACTICE
EVALU-ATIONS
OTHER GROUPS, INCL. S'S
EDUC. RELATED INDUSTRY
RELEVANT CONCEPTS AND FINDINGS
EXPERIENCE AND PRECEDENT
DATA AND TESTIMONY
PERCEPTIONS & HYPOTHESES
UTILIZATION ARM
--DEPICT LOCAL NEEDS AND PROBLEMS.
--ASSIST IN LOCAL TRIAL, INSTALLATION, AND DEBUGGING
--DEVISE LOCAL SOLUTIONS
FELT NEEDS & PROBLEMS
INFORMATION ARM
--PREPARE INFORMATION MODULES
--PREPARE PROBLEM SPECIFICATION PACKAGES
INFORMATION ABOUT TESTED SOLUTIONS
DELINEATED PROBLEMS, RELEVANT INFORMATION, AND RANGE OF ALTERNATIVE SOLUTIONS
DIFFUSION ARM
--INFORM
--DEMONSTRATE
--TRAIN
TESTED SOLUTIONS
DEVELOPMENT ARM
--DESIGN RESPONSES
--PRODUCE COMPONENTS
--FABRICATE SYSTEM
--FIELD TEST SYSTEM
MODULATE
SOLUTIONS

FIGURE 1: MODEL OF A NATIONAL SYSTEM FOR EDUCATIONAL CHANGE.

I have also tried to indicate that there are four major sources of input information that must be utilized: research, practice, evaluations, and other groups with relevant perceptions.

In relation to the development arm I have tried to indicate that the agency may operate by direct intervention, producing its own tested solutions to problems, or may operate by modulating other existing resources in the form of educationally relevant industry.

Finally, I have tried to show that change is effectively carried on in the looping process. The utilization arm passes on felt needs and problems to the information arm. That arm processes these felt needs and problems into problem specification packages, and also prepares related information modules. Some information relevant to both information modules and problem specification packages is also obtained from external sources: research, practice, evaluation, and related groups. The information arm passes all of these materials, including a delineated range of alternative solutions, to the development arm, which, either by direct intervention or modulation of other resources, produces tested solutions. These in turn are passed to the diffusion arm which has the responsibility for informing, demonstrating, and training practitioners in the use of the tested solutions. Finally, the

utilization arm picks up those solutions which it perceives to be relevant to the felt needs and problems which it has identified and works toward their installation in the local school.

CAN SUCH A SYSTEM BE IMPLEMENTED?

The system that I have described sounds like a massive bureaucracy indeed. The question certainly must come to mind whether such an approach could ever really be implemented. This question resolves itself in my thinking along four dimensions: size, cost, availability of personnel, and political viability.

The matter of size is most easily taken care of. How many of each kind of unit would be needed? Obviously the halfway houses would need to be most numerous, since they must work directly with the local practitioners. For a variety of reasons which I will not review here, I estimate that there ought to be such a halfway house for every 100,000 pupils enrolled in public education. That means that a halfway house may serve multiple districts in some cases but in the case of very large districts there may be more than one halfway house per district. Since the number of students currently enrolled in public education is on the order of 4 million,[1] there ought to be approximately 450 halfway houses nationally.

The information centers which I have described can and should be a great deal more centralized. The present ERIC system would make a reasonable nucleus, but of course its functions would have to be redefined and expanded. In terms of size, however, the present central agency plus 20 satellites seem about right to me. I would reserve judgment as to whether these satellites ought to be organized around substantive areas as they now are or in some other way.

The existing regional educational laboratories begin to approximate what I have called development centers. The 20 laboratories originally funded, suitably redefined, seem about right in terms of number.[2]

The diffusion arm is perhaps the most difficult to predict reasonably, since we have had less experience with this kind of agency than with the others. I would certainly suppose that these centers ought to be dispersed to approximate the present dispersion of pupils. There should be, I believe, about one diffusion center for each 10 or so halfway houses; thus we would require about 45 diffusion agencies.

I am suggesting, then, a system encompassing a total of 536 agencies. Of this number, the large majority, 450, would be local utilization centers or halfway houses, an average of nine per State. Forty-five would be diffusion centers, 20 would be development centers, and 21 would be information agencies.

How much would such a system cost, and where is the money to come from? School systems currently spend about $5 per pupil on textbooks.[3] I would suggest a roughly comparable figure be spent in support of halfway houses. I believe that half this amount should come from the local districts being served and the remaining half from the State. It would not seem unreasonable to me if the State should decide to garner its half from ESEA Title III money. The annual bill for the typical center serving 100,000 pupils would thus be a half-million dollars; the total annual bill for 450 halfway houses would be $225 million.

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[1] The number for the academic year 1967–68 is estimated at 45,454,390. See Table 17, Ranking by States 1967–68, Research Report #1, NEA Research Division, Washington, D.C.

[2] The number of functioning laboratories has been reduced to 15 by recent administrative action. I would recommend a return to the level of 20, assuming, of course, redefinition of function along the lines suggested here.

[3] *Guidelines for an Adequate Investment in Instructional Materials*, NEA, 1967, p. 22.

The 45 diffusion centers seem to qualify very well for funding under existing Title III legislation. Each diffusion center to be effective would require, in my judgment, a budget on the order of $2 million. The total annual bill for 45 centers: $90 million.

The development centers are supportable under current provisions of Title IV ESEA, although some budgetary extension would be necessary. On the basis of present experience with the regional laboratories, I would suggest that each center ought to spend perhaps five times as much as the average existing laboratory, or about $5 million annually. Total annual bill for 20 development centers: $100 million.

The information centers are fundable from the same source as existing ERIC Centers, via the USOE Bureau of Research, although again, a sizeable appropriation adjustment would have to be made. I would recommend a budget of $2 million for each satellite and $5 million for the central agency. Total annual bill for these 21 information agencies: $45 million.

The total annual cost for all activities described is thus $460 million. This total, it may be noted, is on the order of one-seventh the present total *Federal* expenditure for education. It is very clear not only that we can afford such a system but that it would not require additional money to fund; all that is necessary is some reallocation of funds already being expended.

So far we have seen that the system proposed is quite reasonable both in terms of size and cost. How about personnel?

Obviously, the system I have described will require many people—perhaps as many as 30,000 professional or paraprofessional persons and probably no fewer than 20,000. Moreover, in the main we are talking about types of professional roles that are not now in existence, and for which training programs are not now available. I suppose that if such a system were to be set up tomorrow, the various agencies would do what present Title III projects, regional laboratories, and the like do: raid the classrooms or administrative offices of the schools and universities of bright young persons who have a spirit of adventure and then train them as well as they can on the job. Indeed, in most cases the persons involved have to find ways to train themselves. Such a state of affairs would be very chaotic indeed. Unless we can find ways of developing training programs for such persons and begin to train them in large numbers, the whole idea proposed here would be worthless. This task seems to me to be the highest priority training job for any school of education today.

Finally, how about the political feasibility of the idea? Can Congress be persuaded to take some massive step such as this? Can the State departments of education be expected to fall in with such an idea and provide their share of the resources? Can local school officials be expected to give up some of their autonomy to an extra-district unit like the utilization arm? Surely these are all difficult problems, and my own cynical prognosis is that the chances are not too good. My hope is that the urgency of the educational situation, already very apparent to any thoughtful observer, will force some kind of massive change in national strategy.

Last Words

It is impossible, of course, to do justice to a proposal of such magnitude in the space of a 3000-word paper. There are myriad details that must be developed before it is possible to decide whether the idea warrants some kind of trial. It is probably not possible, even if everyone were persuaded of the idea's feasibility, to operationalize it all at once; the basic concept will need to be engineered a component at a time. I am, myself, persuaded, however, that the concept has merit and that it represents a sensible series of next steps to build on to what we have already begun.

THE IMPLICATIONS OF COMMUNICATION TECHNOLOGY FOR EDUCATIONAL POLICY

William G. Harley, President, National Association of Educational Broadcasters, Washington, D.C.

A. Television-in-Instruction: The State of the Art

The term "state of the art" is susceptible to varying interpretations. For us in the context of this paper it means surveying the general conditions of contemporary practices as a way of determining the highest level of achievement which is reasonably practical within the constraints of the technical and skill capabilities available.

If we were concerned with the state of the art of the knife-in-kitchen-work, rather than of television-in-instruction, we should probably proceed briskly to an incisive examination of all the many cutting, chopping, slicing, paring, carving, coring, peeling, mincing, scoring, scalloping, and other such culinary operations possible with the various sharp-bladed instruments comprising the *genre* in question. It is likely we would give but glancing attention to the multifarious stirring, squeezing, mixing, patting, measuring, tasting, and spearing tasks which are also potentially in the repertory of those same handy implements. This would be for the perfectly sensible reason that the highest virtue of the knife is universally recognized to be that of *cutting:* the single category of kitchen tasks by which the state of the "knifely" art could be discerned and examined with greatest cogency and precision. The other functions would be seen as strictly secondary to the knife; some even a touch exotic, useful only in rare scullery emergencies, and all likely to be performed rather better by some other kitchen tool. It is not that these secondary functions are totally unimportant, but rather that they are not of prime worth in understanding the essence, significance, and potentials of the knife-in-kitchen work.

All of which brings us around to emphasize the vital importance of determining the highest virtue (or what the Greeks called the *areté:* the chief excellence) of television-in-instruction as the best means of trying to assess the "state of its art." It is a point on which there is something less than universal accord throughout the new field of instructional technology. Yet the disagreements probably arise more from confusion than conviction.

Television can be employed "effectively" for so many "useful" teaching jobs that assigning primacy among them may seem somehow arbitrary and procrustean. What does it matter if television's chief virtues are numbered in the dozens—or more? Why must we distill them down to some solitary essence? No reason, indeed, if it were really true that television could accomplish a long list of vitally significant teaching tasks "better" than any other means available. We believe it can be shown, however, that such diversity of virtue is not in fact the case.

It would appear valuable at this starting point to take a look at a typical catalogue of the many (sometimes overlapping) applications of television-in-instruction, so that we might winnow out the genuinely significant.

CURRENT TELEVISION APPLICATIONS

Television devices, of one kind or another, can be arranged to provide:

1. *Magnification and visual display.*—Simple video systems can be used as convenient magnifying and display implements for group viewing. Laboratory materials, graphic pieces, book pages, etc., are placed under a magnifying lens and the resultant image is fed to TV receivers placed in classrooms or laboratory areas.

2. *Specimens for behavioral analysis.*—In such academic areas as speech training, acting, practice teaching, music performance, and athletic development, portable helical-scan videotape devices are employed to record student performances for analysis by the student himself, his classmates, or his instructor. These relatively inexpensive machines permit instantaneous and repetitive showings of the recorded "behavioral specimens."

3. *Alternate means for (mass) film distribution.*—In a few schools, television closed-circuit systems exist primarily for the purpose of allowing easy distribution of film materials from a central point to many classrooms. The technique offers not only a logistical advantage but also enables films to be used in a class setting without dousing the lights or requiring the teacher to undertake irksome machine operations. Nevertheless there are serious legal problems attendant to the practice which have not been resolved on a national basis. Film distributors are reluctant to allow wholesale distribution of single prints on large closed-circuit systems because they feel the procedure could drastically reduce the sale of duplicate prints.

4. *Communications channels for administrative prescription.*—Some institutions are finding television effective for passing on instructions. For example, at the Pennsylvania State University, students coming into a science laboratory are shown brief videotape programs which tell them exactly how to proceed with the scheduled

experiments. (In the Southeast, the Agricultural Extension Service has experimented with administrative "briefings" for its agent specialists through state-wide ETV networks. In some instances, long-distance telephone lines were used to provide "two-way" communication between the parties involved.)

5. *Materials for drill exercise.*—Television can be employed as a mechanical "drill master" in such areas as language training and calisthenics. The audio-video system cues class groups to make responses on an appropriate, iterative schedule. The technique frees teachers from the burden of having to conduct such rote-learning activities in person.

6. *Data storage and retrieval.*—Videotape can be a useful archive medium for the storage of certain aural-and-visual resource "data" in a convenient retrieval form for direct, instructional use: lectures by visiting authorities, music performances by famous guest artists, interviews with primary sources in history, etc.

7. *Testing materials.*—Television can be employed to devise special test materials. The technique is particularly valuable where the student needs to be tested for his discrimination of phenomena which are not reducible to writing as, for example, the specification of a particular micro-organism in a "mixed" culture or the identification of certain stage-craft techniques manifest during the actual presentalation-and-gaming exercises. One of the most effective uses is found successfully on several occasions in connection with informal "lessons" about highway safety and current events.)

8. *Descriptive and solution elements for simulation and gaming experiences.*—Videotape materials can be utilized as elements in simulation-and-gaming exercises. One of the most effective uses is found in teacher education. A typical classroom behavior problem is screened for a teacher trainee. He is then asked to decide which corrective steps should be taken. Standing by are three or four "solution" tapes. The one representing the course of action suggested by the trainee is then projected on the screen so that he can see for himself the probable consequence of his judgment.

9. *Materials for auto-tutorial study.*—Television can be linked up as a display system in the new study-carrel configurations springing up in "media centers" all across the country. These arrangements allow students to "dial-up" videotape or film materials for individualized study. Customarily, the materials available through these private channels are "repeats" of televised elements previously used in group class situations, although special learning elements can be devised as well. The expense of videotape equipment keeps this from being a large-scale application; however, less expensive audiotape equipment is being used very extensively for this same kind of individualized study.

10. *An electronic blackboard.*—There are on the market now several so-called "slow-scan television" devices which enable the transmission of static pictorial and diagrammatic materials over regular telephone lines. These devices are especially helpful in such academic areas as mathematics, because they enable a television receiver to become an "electronic blackboard" on which written figures can appear (at interval rates of about five seconds, far too slowly to give the effect

of natural motion). Occasionally regular television equipment is also employed to devise "electronic blackboard" effects in teaching mathematics.

11. *Computer-related visual displays.*—Videotape systems can be linked with computers so that visual cueing can be provided at various points in a sophisticated branch program; however, the videotape machinery presently available is not really flexible enough for the frequent and rapid "seek-frame" operations requisite to proper computerized branching. Technological advances will likely remedy this defect in the next few years.

12. *The communication means for direct interchange.*—A few institutions make use of television as a two-way communications device. They have installed a "true" circuit between two or more meeting locales, each having audio/video pick-up capability. Persons gathered at each of the locales are able to communicate aurally and visually with persons at the other locales. The technique is notably valuable in conducting graduate seminars and the like; it is, however, a rather expensive procedure.

13. *Topics for class assignment.*—One of the oldest academic uses of television is that of assigning a particular program to serve as a topical basis for student themes or classroom discussion. Documentary and fine arts programs from ETV and commercial stations are especially suitable for this purpose.

14. *Materials for diversion.*—Some schools make regular use of television as a diversion during out-of-class periods. Students are allowed to watch mass-appeal programs from local commercial channels, or the school uses its own CCTV system to feed a special "educative" film with high attractant value for the age group involved.

15. *Mechanism for visual surveillance.*—Simple video systems can be used for "security and discipline" surveillance of corridors, library areas, laboratories, and the like. While this application is only indirectly related to instruction, it could prove very valuable in large schools with severe staff shortages.

16. *Materials for curricular enrichment.*—The most frequent application of television in instruction nowadays comes under this general rubric, by which is meant the classroom showing of unitary ([illegible]eries) programs structured to heighten the student's interest in some topical compartment of the regular curriculum. Customarily programs of this kind are not considered *sine qua non* components of the courses with which they are used. Instead, they are regarded as supplementary and extraordinary, with their main emphasis being on special motivation and affect. The usual practice is to allow teachers to opt the inclusion of such enrichment materials on a purely individual basis. Measurability of the effects of these offerings is extremely difficult, if not impossible.

17. *Articulable teaching elements.*—Television can be used to supply teachers with lesson elements which are substantially articulable with other components of course operations, including textbook materials. Such television programs are assigned some more-or-less specific part of the total presentational load. In too many situations, unfortunately, the design of the televised elements is determined only along the lines of an arbitrary "content allocation"; coordinated "performance ob-

jectives" for the courses affected are seldom relied on to provide the mechanism for a genuinely rational articulation of all of the elements into an efficient whole. Use of the materials by teachers is often permissive.

18. *Electronic adjunct materials for correspondence course teaching.*—Television can be used as an adjunct to the familiar correspondence course format. In some instances, enrolled students are advised that they should tune in to televised lectures and demonstrations which will be very helpful in their understanding of certain concepts to be treated through the regular (correspondence) format. In other instances, students are actually required to accept a part of their instruction electronically, or, at least, they are responsible for examination on content handled largely in that form. (The Chicago Junior College has made an outstanding showing in this overall category, although students enrolled in the "televised courses" offered by that institution do have direct—as well as correspondence—access to teachers or tutors.)

19. *All the elements for total teaching.*—In certain rather special circumstances, students can be taught exclusively by televised materials. The technique is employed in "extensive education" situations where there are serious logistical blocks in the way of providing students with printed materials or in having them come together to meet with live instructors. (North Carolina State University has made use of this kind of televised training as in-service education for professional agriculturalists.)

B. RECOMMENDATIONS FOR SPECIFIC DEVELOPMENT PROGRAMS IN EDUCATIONAL TECHNOLOGY*

We feel that our professional concern about educational practices is best if radio and television (all forms of transmission) and other electronic communication systems are seen together as instruments that are capable of being adapted to a variety of educational needs and circumstances. Technical systems that can accommodate sounds and pictures can also be used to transmit data-processed information to and from computers and other storage devices. Such systems extend the traditional forms of instructional technology in that they add the possibility for *both* economic efficiency and educational effectiveness. These virtues were clearly outlined in the C.E.D. statement on Innovation and Educational Change.

Growing from this expectation, there are three observations that we feel might be helpful at this stage of the General Subcommittee on Education's discussions and planning. First comes recognition of the present stage of instructional television and radio's development. The observations and conclusions seem uniform: television and radio have not been used to effect comprehensive and substantive changes in educational methodology, educational opportunity, or educational achievement. They have supplemented classroom activities, which are generally considered to be inadequate and inferior, thereby expecting poor situations to be a good environment for effective use of presumably superior instructional material. The extent to which the televised material is less than superior merely accentuates the malpractice.

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*Based on excerpts from a letter of the author to Sterling McMurrin, Chairman, Commission on Instructional Technology, February 4, 1969.

Second follows the recognition that instructional applications of television and radio are potentially more effective than their use thus far has demonstrated. The reasons for this condition will vary. Some will say that money is lacking; that the lessons are inferior; that the teachers do not know how to use television and radio effectively; that there are not enough receivers; that the teacher guides are not distributed on time; that the students do not care for instructional television and radio; that the schedule is inconvenient; that the materials are inappropriate—too general or too specific—to be relevant to the curriculum at hand; that the principal feels television is used by teachers to waste time; and so on. All of these conditions exist and they clearly inhibit the use of television and radio in the classroom. But if they were each resolved, would we have the slate clear for genuinely effective use of these media? Probably not; other more basic factors may be involved.

Third is the recognition that the reason for the ineffective and inefficient use of television and radio in the schools is that they have been seen chiefly as classroom and teacher aids, rather than as means for organizing modern and effective educational practices that have not changed appreciably since the nineteenth century. Such practices place in a central position of authority and instructional decisionmaking a classroom teacher. She is, in every respect, a proverbial "gate-keeper" who selects what her students are to be taught and what is to be neglected. Many teachers do this well; most do not. And instructional television and radio, good or bad, have been relegated to provide only that material and only those lessons which fit into these traditional practices. Such has been the fate of virtually all attempts at innovation, including most versions of team teaching, which merely involve more people in the original sin.

There will be shades of opinion about all of these points, but we are left with the general condition of our schools and their productivity. And we are left with a communication technology that, to date, has had negligible impact upon that condition. The following conditions may be considered illustrative of our educational needs and deficiencies; New York City schools on strike the better part of the school year; Youngstown, Ohio, schools closed from Thanksgiving until Christmas for lack of funds; more than 30 percent of persons taking the Army General Classification Test failing; increase in the number of remedial reading programs required; inferior educational opportunities for large numbers of racially segregated students; meaningless instruction for the major portion of children in the inner city schools. These are the facts of educational life for many children in the United States.

The following potential of electronic communication technology has yet to be applied to these conditions: movement of information from one point to many; movement of information from many points to a central place; capacity to handle a variety of communication symbols—voice, sounds, moving pictures, stationary pictures, diagrams, printed displays, etc.; opportunity for persons geographically separated to work together on a common task; capacity to operate beyond and around the usual geographical limitations; opportunity to facilitate both administrative cooperation as well as instructional cooperation among widely separated individuals; economies of scale that reduce unit cost as numbers of participants increase. These are some of the facts of technological opportunity that have not yet been fully examined with respect to the educational conditions noted above.

I believe it would be tremendously helpful to American education if the Commission could foster the practical accomplishment of several important tasks:

(*a*) Identify the significant educational deficiencies extant in our schools and colleges with an eye to the contributions communication technology could make toward their relief.

(*b*) Establish several "model" instructional operations which would actually illustrate the ability of communication technology to facilitate and support learning environments for the benefit of individual learners as well as for groups of learners. This kind of demonstration should encompass not only the use of these media to present information but also extend to the application of technology to facilitate management of more effective educational operations at all levels.

Such a demonstration would best be accomplished by identifying several areas where the full-scale operation of school systems could actually be built around the facilitating potentials of electronic-communication technologies (audio-video-data). Such areas might be the Washington, D.C. schools, the rural schools of places like Appalachia and Mississippi, and the reservation schools located where there are concentrated Indian populations. The operation of these systems should be undertaken with adequate funding, on a comprehensive and developmental basis, for a minimum period of ten years in order for the full potential of the new methodologies to be realized.

(*c*) Establish comparable demonstrations of electronic communication technology at the higher education level. Such attempts might involve the organization of a State's junior college program, treating geographically separated buildings across a State as if they were a common campus made whole by electronic communications systems that can facilitate both administrative and instructional operations.

(*d*) Promote the healthy development of "electronic publishing centers" (consortia of educational institutions, private commercial interests, etc.) which would represent a rational consolidation of scarce resources and professional personnel. These centers would be expected to generate a variety of tested and validated materials for nation-wide use by local, State, and regional educational systems and to provide basic units of instruction—for adaptation and integration into locally managed curricula.

(*e*) Recommend a new administrative unit within the Federal government (perhaps an Office of Instructional Opportunity) which would have several functions:

(1) Help carry out the tasks enumerated above.

(2) Provide continuing guidance, supervision, and direction for the effective implementation of educational programs which are facilitated by communications technology.

(3) Direct the use of technology in improving instructional effectiveness in all educational operations and programs of the Federal government itself.

(4) Secure comprehensive and substantial assistance from State and Federal sources for current and future efforts to use mass communications technologies to achieve educational opportunity and improvement.

CONTEXT FOR EDUCATION IN THE SEVENTIES

Willis W. Harman, Director, Educational Policy Research Center, Stanford Research Institute, Menlo Park, Calif.

In the course of the research conducted for the U.S. Office of Education by this Center on alternative futures and their relation to educational policy making, an interpretation of contemporary events has evolved which, if it is substantiated by further investigation, has the most profound implications for education in the seventies. (1)

In brief, what emerged from the analyses are three forces pushing toward a drastic shift in cultural values and basic premises. These are, (A) the existence of a world macroproblem which requires such a shift for its solution, (B) the "great refusal" of youth to go along with the values of the past, and (C) the questioning within science as to whether its classical "value-free" stance was either appropriate or, in the long run, wholesome. Should these forces prevail, the consequence would require a radical reassessment of all aspects of national policy, but particularly in the areas of research funding policy and educational policy.

These arguments are summarized below, as a context for thinking about educational policy issues in the seventies.

I. THE WORLD MACROPROBLEM

There is in our day one world macroproblem which outweighs and, indeed, subsumes all other major social problems. This is the composite of all the problems which have come with uncontrolled technology application and industrial development.

Accelerating development and application of technology have already brought us to the threshold of overpopulation (through technology-reduced mortality rate); pollution of air, water, and soil; extensive unemployment of the unskilled; paralyzing air and surface traffic congestion around urban centers; and the threat of nuclear holocaust. These have been the consequences of the unspoken policy that whatever technology would make a profit for an individual or an organization, or would contribute to a nation's ability to carry on warfare, that technology would be developed and applied. But now this policy has brought us to what Archibald MacLeish has called "the Great American Frustration"—the feeling that we "have somehow lost control of the management of our human affairs, of the direction of our lives, of what our ancestors would have called our destiny." (2)

For it has become clear that we have now, or could develop soon, the power:

Through "human engineering", to modify indefinitely the bodies of selected individuals, for reasons ranging from scientific curiosity to prolonging life

Through genetic engineering, to modify the characteristics of the human race and to shape the course of evolution

To change to unlimited extent the physical characteristics, and the plant and animal population, of the biosphere

To alter to unlimited extent men's mental and emotional characteristics, including intellectual abilities, motivations, affect, personalities, and character

Through weapons of mass destruction, to annihilate large segments of the human race and devastate large areas of the earth

To change significantly, in many other ways, the kind of world which is handed on to the next generation

Past experience gives us little assurance that the predominantly economic values and *laissez-faire* policies which have thus far governed industrialization and technological development will suffice to insure that such potent powers will be used for the overall benefit of humanity. Our past practice has been to allow arms races, or pollution, or environmental degradation, or ecological imbalance, or denuding of the land to proceed until the situation was obviously becoming intolerable, and then attempt some sort of corrective action. This may not be good enough in the future.

Wheeler (3) argues that some sort of control of the flow of scientific and technological innovation is as necessary now as economic controls of capital flow have been in the past. Furthermore, this control must be transnational, involving at a minimum all the highly developed nations.

It seems clear that this "sorcerer's apprentice" problem calls for more than simply different policies. Some new institutional form, in addition, will be necessary. But even more may be required. In the end the issue is not one of technology but one of values. The question is not one of devising managerial technology to control technology, but rather the more fundamental question of whether the operative values which served so well in the development of modern technology are basically capable of handling its humane application.

Pecci (4) is one of the first to use the term "macroproblem". The term is appropriate for several reasons. The various aspects of this problem are spawned by the same parent, rampant technology and industrialization. The problem is world-wide in scope, although the effects in the underdeveloped parts of the world are different from those in the highly industrialized regions. The problem is already extremely serious and will inevitably become more so in spite of any corrective actions which might be initiated now.

The world macroproblem can be conveniently viewed as the composite of six separate problem areas and their complex interconnections:

1. *Population and food supply.*—Problems arise from population concentrations and the consequent likelihood of famine and plague. The "green revolution" in agriculture is often put forth as a potential

solution to these problems. But the "green revolution" may be only a delaying action. Furthermore, it contributes to contamination of water with agrichemicals, adds pollutants to the air through sprays and use of fossil fuels, and poses new problems of transportation and distribution, and of displaced persons. Human and organizational breakdowns associated with population concentrations are likely to add to the more direct difficulties.

2. *Changes in the biosphere.*—Among problem alterations in the biosphere are ecological imbalances; pollution of air, water, and soil; contamination with radioactive waste; general fouling of the environment; resource depletion; changes in temperature and composition of the atmosphere.

3. *Poverty and the developmental gap.*—The gap between industrialized and underdeveloped nations seems ineluctably destined to worsen in spite of deliberate programs aimed at closing it. This comes about as a consequence of two powerful factors, the self-regeneration acceleration of technological and industrial development in the prosperous nations, and the staggering problems in the overbreeding and underdeveloped societies. In the context of presently prevailing outlooks and values it does not appear politically feasible for the governments of the prosperous nations to contribute anything like the economic aid which would be required to bring the poor nations to the "takeoff point". The existence of this growing disparity in quality of life poses a constant threat to world stability. Within the nation, a similar disparity threatens national order.

4. *Biological and psychological alterations.*—This is the problem of uncontrolled powers to "engineer" the human body, mind, foetus, and genetic transmission; to affect emotional states and personality, intelligence and character, motivation, and goals.

5. *Weapons and sabotage.*—Weapons of mass destruction (nuclear, chemical, biological) are or will be available to even small nations, making war an anachronism the planet can no longer afford. Weapons of sabotage are more effective as the complexity of modern information, transportation, power, industrial, and social systems increases their vulnerability to incapacitation.

6. *Threats to mental health, civil rights.*—Modern technology increasingly empowers the state to control individual privacy and freedom. Anxiety and threats to mental health result from congestion, continuing international and domestic tensions, fear and hostility in urban areas, greater complexity of existence, rapidity of change, reduced contact with nature, reduced interpersonal communion. Economic problems of technological unemployment and continuing poverty take their toll in mental disturbance. Fear leads to police-state treatment of minority groups who appear threatening or subversive to a nervous populace.

We have reached a point in history when new outlooks and values may be essential—certainly new institutions are. We can no longer avoid active responsibility for the future of the planet, of the biosphere, and of the evolution of the human race. If the developed world does not, as a unity, take on this responsibility within the next few years, it may be too late to avoid disaster.

No research task is more urgent than to find out where we are with regard to this macroproblem. If the time is short, we had better find out how short. If we do not know which aspect will become intolerably serious first, and when, we need to find that out. If we will need new supranational institutions for world-wide control, we had better design them and find out how to get them accepted. If we need, beyond that, a vast educational shift toward active stewardship of the future, and toward altered values compatible with a livable future world, we had better undertake that. If we do not do these things, it may not matter much what else we do.

II. PATHOGENIC PREMISES AND NATIONAL WILL

There is good reason to believe that this world macroproblem, when viewed as a single multiply-interconnected problem, is *essentially unsolvable* within the context of the operative values of the modern industrial state, uncontrolled technology development and application, and nationalistic mentality—that is to say, within the framework of presently prevailing values and basic cultural assumptions. Certain basic premises which have been associated with the rise of modern science in its present form, and with modern technology, industrialism, and nationalism, have become *pathogenic* with present population rates and technological levels. (5)

Some candidate premises with pathogenic aspects are:

The reductionist view of man, which is a premise (not a consequence) associated with the development of contemporary science, and which lends sanction to dehumanizing ways of thinking about and treating men.

The premise that men are essentially separate, so that little intrinsic responsibility is felt for the effects of present actions on others or on future generations.

The premise that man is separate from nature, and hence that nature is to be exploited and "controlled" rather than cooperated with.

The "economic man" image, leading to an economics based on ever-increasing GNP, consumption, and expenditure of irreplacable resources.

The premise that the future of the planet can be left to autonomous nation-states, operating essentially independently.

The disbelief that "what ought to be" is a meaningful concept and is achievable.

The reason that these premises are pathogenic now, whereas they were apparently fairly workable in the recent past, lies in the way in which the future is profoundly different from the past. From now on, *everything* in man's environment, in his physical makeup and behavior, and in his future development, is subject to human meddling, interference, and "control". But we have not developed the responsibility for making the momentous choices which face us, and will not develop such responsibility until there is an adequate metaphysic to support it.

At the national level the most serious problem we face is the loss of a unified national will, since that is the essential motive power for making progress on the other problems. This failure of will is manifested in whole groups of the society "bailing out," feeling alienated, or blaming other groups for their troubles—youth, blacks, peace demonstrators, rightists, public servants, "silent majority," vocal minorities. A key component in this dissidence is loss of a sense of purpose.

Historical observation of man's behavior shows clearly that those values which have motivated him to his highest achievements have always been those which transcend his physical nature, which imply a spiritual order behind the phenomenal order. In an age in which cynical "realism" has become a powerful force, we have somehow found it hardheaded and realistic to believe that man is motivated by the symbolic desire to make a profit, but unrealistic to believe that masses of men might be inspired by the lofty goals incorporated into the symbols of the United States of America. The historical record shows that those symbols, and the meaning behind them, have given hope to millions upon millions of people throughout the world. No other nation has ever dedicated itself to the bringing of a new order into the world, in which all men—not just its own citizens or a fraction of them—would find opportunity and freedom and human dignity. To be sure, we have on the whole done rather poorly in actualizing that goal. But that fact does not belie the unifying power of the symbols and the goals.

However, these symbols have in the recent past lacked that power, partly because the underlying metaphysic became disbelieved. The loss of a sense of national purpose, and the rising dissent and civil disorder, thus are also linked to the "pathogenic premises" which have undermined the meaning of the national goals and symbols.

III. A CONFLICT IN PREMISES

A conflict exists between the basic premises of a democracy—that man is, by virtue of his transcendental nature, endowed with reason, will, and a valid sense of value—and the reductionistic, deterministic, physicalistic premises of the predominating behavioral-science and sociopolitical theory found in the universities which train the society's leaders. Sociology has shifted from its earlier emphasis on the semiphilosophical "humanities" approach to an emphasis on techniques and empirical studies, with the implication that man is a creature of his drives, habits, and social roles, and in whose behavior reason and choice play no decisive part. In psychology courses this point of view is likely to be made even more explicit, with consciousness considered to be an inconsequential accompaniment to behavior governed by external stimuli and instinctive urges. Contemporary political science tends to focus on the processes by which public policies are made, and to be relatively little concerned with their contents. Amid the measurement of attitudes, population movements, organizational trends, and political behavior, and the modeling of society and governments, little attention is given to the historic questions relating to man, his condition, and his destiny.

On the other hand, the concept of a transcendental, choosing, ultimately responsible self is essential to the entire theory of democratic government. It underlies the assumption that the criminal is responsible for his act (while recognizing in providing rehabilitation opportunities that his antisocial traits may have ther roots in environmental conditioning). It is basic to the assumption in the judical process that the judge can meaningfully make a normative judgment. It is essential to the workability of "government of the people, by the people, and for the people."

This conflict in basic premises is directly related to the future of the planet. Arguing from essentially the same standpoint as the "world macroproblem" discussion above, Victor Ferkiss (6) asserts that nothing short of a new guiding philosophy is required to meet the challenge of the years just ahead. He outlines three basic elements which such a new philosophy would have to incorporate. First is what he terms a "new naturalism," which affirms that man is absolutely a part of a nature, a universe, that is always in process of becoming. The second element, "the new holism," recognizes that "no part can be defined or understood save in relation to the whole." The third, "the new immanetism," sees that the whole is "determined not from outside but from within." It follows from these that meaningful social policies must be ecological in character, that is, they must be based on a recognition that any decision, any change affects everything in the total system. Men's actions and the forces they set in motion are all part of the developing whole; "every part of the whole has power and influence; every living particle is a source of direction and life." If man is to acquire the necessary sense of responsibility for the impact of his own actions on the shaping of the whole, he "must so internalize these ideas and make them so much a part of his instinctive world view that they inform his personal, political, and cultural life."

As we shall see below, two other forces in society appear to be urging us toward similar premises and values, toward a new image of man. One is an aspect of the dissent of youth; the other, a development within the realm of science.

The kind of educational system and educational goals a society sets up, the way it handles the problem of poverty, the priorities it gives to aesthetic considerations, the extent to which it considers its citizens' need for easy access to communion with the nature, the uses of leisure it fosters—all these aspects and many more are effected by the image of men held by the society. Currently in our society these potent emerging forces push for a change in that image, in the direction of transcendent man. Thus far the power is on the side of reductionists.

IV. THE GREAT REFUSAL

One of these two forces, a component of the youth revolution, is what Mendel (7) terms "the Great Refusal" to go along with the old values, a protest "against that pitiful caricature of man created by five centuries of urban, technological, and scientific progress—*homo economicus*. The essential accusation of the Great Refusal is directed against the subordination of human experience to the economic processes of the consumer society and its increasingly more absurd products, to the aggressive militarism that at least in our case has become so tightly interwoven with this society, and to the gigantic, impersonal organizations through which it all functions."

Nor is it only among the youth that we find such sentiments. Increasingly, business executives are heard to include, sincerely to some extent at least, high in the list of corporate objectives of providing opportunity for the fulfillment of members of the organization, and of contributing in some fashion to the welfare of mankind.

It is, of course, an oversimplification to the point of risking distortion to lump all the dissent together as the "Great Refusal." The situation is a good deal more complicated than that. Let us comment on one aspect of the dissidence of youth which is particularly relevant to our discussion here. At least four distinct movements can be discerned which, by around 1968, had coalesced to form one rather powerful thrust. As a consequence of these four tributaries, the present movement has a unique character stemming from its use of what might be termed "person-changing technology."

The first of these converging streams is the new political activism starting with the civil-rights movement which enlisted idealistic youth in increasing numbers for the dozen or so years following the Supreme Court decision (*Brown* v. *Board of Education*) in 1954. Later causes included the Vietnam war, the draft, "nonrelevance" of higher education, university involvement in weapons research, etc. A second stream, the psychedelic or hippie movement, could be said to have begun in 1963 with the founding by Harvard's Timothy Leary of the International Foundation for Internal Freedom (IFIF), promulgating the ethic, "Turn On, Tune In, Drop Out." A third tributary did not start with the young so much as with the psychotherapists—the "human potential movement," which takes 1961 as its birthdate, with the founding of the first of the "growth centers," Esalen Institute, at Big Sur, California, and also the founding of the American Association for Humanistic Psychology. The fourth component is much older, the left wing political group which was finding its new heroes in Fidel Castro and Mao Tse-Tung. As these four movements began to join forces (for some purposes, although this is not meant to imply the existence of a unified political movement), and especially as it became more common to assert that "the real revolution is not in the ghetto or on the campus, but in people's heads," the use of the "person-changing technology" became more deliberate.

Some of the elements of this change technology are listed in Table 1. Emphasis is on increased awareness in two directions, (a) of the higher-consciousness nature of man, and hence of the demeaning quality of the prevailing images of behavioral-science man and economic man, and (b) of institutionalized hyprocrisy, inequity, and inhumanity in the social system. The techniques near the top of the list tend to aim more at expended self-awareness and those near the bottom at heightened social awareness.

TABLE 1

Element of "person-changing technology"	Typical outcomes
Meditation Yoga Psychedelic drugs Hypnosis, autohypnosis Psychosynthesis	Awareness of spiritual dimensions of transcendental self, of the "hypnotic" or "encapsulated" nature of ordinary life
Sensory awareness	Sensitivity to feelings and emotions, beauty
Self-awareness exercises Psychotherapies	Sensitivity to human closeness, self-honesty, realization there is nothing to hide
Group therapy Sensitivity training Encounter groups Gestalt therapy Group nudity, marathons	Sponatenous response to experience, self-expression, individual autonomy, emotional freedom
Psychodrama	Removal of guilt and fear stemming from early training regarding morality and sin
Synanon games New Theater (ridicule of Establishment, crudity and nudity, audience encounter)	Ego-reducing experience, awareness of ego-defense nature of social institutions and customs
Forceful disruption of normal social process Underground press Radicalizing confrontations Deliberate provocation of "instructive encounters" such as police confrontations, black-white confrontations, etc.	Perception of oppressive nature of social institutions

Young people's concern with "awareness-expanding" and "consciousness-exploring" activities is intimately related to their reformulated value convictions. If materialism was the philosophical base for the Old Left, it appears that some form of existential transcendentalism may be coming to play that role for the New Left. The far-flung network of "rock stations," broadcasting revolutionary messages in the lyrics of their songs and in their parodies of news programs, intersperse material on religious, metaphysical, psychic, and esoteric topics. As Roszak notes in one of the most penetrating analyses of the youth revolt, (8) "If one scans any of the underground weeklies, one is apt to find their pages swarming with Christ and the prophets, Zen, Sufism, Hinduism, primitive shamanism, theosophy, the left-handed Tantra . . . At the level of our youth, we begin to resemble nothing so much as the cultic hothouse of the Hellenistic period, where every manner of mystery and fabery, ritual and rite, intermingled with marvelous indiscrimination." Notwithstanding, he notes, there is a unifying theme, "the world view of Lao-Tzu, of the Buddha, of the Zen masters . . . has become one of the strongest strains of the counter-culture . . . The counter-culture is, essentially, an exploration of the politics of consciousness."

V. A NEW SCIENCE OF CONSCIOUSNESS?

Such indications of a shift in the metaphysical premises of the public at large, or the younger part of it, might appear to be a mere fad. More significant in a way are indications that scientists—persons with recognized scientific training who are on the staffs of research organizations and universities with high standards and who hold membership in recognized scientific associations—are manifesting more and more interest in developing a science of ordinary and extraordinary subjective experience. The study of "altered states of consciousness" is not completely new, of course. The phenomena of hypnosis have been studied in a scientific way, off and on, for at least a century and a half. Phenomenology has been a sporadic influence in psychology. Freud's psychoanalysis and its offshoots have attempted to probe the unconscious processes. But the present thrust is toward a more basic shift in implicit premises and root metaphors.

A list of pioneering works in the systematic exploration of consciousness would include William James' *Varieties of Religious Experience*, F. W. H. Myers' *Human Personality and Its Survival of Bodily Death*, Richard Bucke's *Cosmic Consciousness*, Pitirim Sorokins' *The Ways and Power of Love*, and the writings of numerous Vedanta, Sufi, and Zen scholars. Among modern psychotherapists whose works fit into this same category are C. G. Jung, Roberto Assagioli, and Hubert Benoit. Several new scientific journals serve the field in particular the *Journal of Transpersonal Psychology* and the *Journal for the Study of Consciousness.*

Research activity is currently significant in at least three approaches to altered states of consciousness: Feedback of EEG signals, psychedelic chemicals, and classical (by which we mean sensory deprivation, yoga, autohypnosis, hypnosis, meditation, etc.). It should be noted that there are two recent and significant advances in this area. One is increased access to and voluntary control of diverse states of consciousness, making them more available for exploration. The other is the appearance of physiological correlates to altered states (EEG, EMG, GSR, REM, etc.). This latter is of extreme importance in a philosophy-of-science sense. The scientist of subjective experience is now much more in the position of the physicist studying an electron, or the astronomer studying a galaxy, in that he can say, "Here is a phenomenon (dream, satori state, etc.) which defies strict definition, but which I can study through various correlates (alpha waves, rapid-eye-movement, verbal report, observable behavior, etc.)." In effect, it means that the barrier between objective, "public" data and subjective, "private" data is gone for good and the legitimated boundaries for scientific scrutiny are thus extended.

The science of consciousness is in its infancy. Even so, some of its foreshadowings are evident. With the re-classification of man's subjective experience into the realm of empirical inquiry, we can anticipate an acceleration of research in this area. Consequently, there is new hope of consensus on issues—especially value issues—which have been at the root of conflict for centuries (just as earlier there came about consensus on the place of the earth in the universe, and on the origin of man). The new science bids fair to incorporate the most penetrating insights of psychology, the humanities, and religion. These developments will have profound impacts on goal priorities in society, on our concepts of education, on the further development and use of technology, and perhaps (as in the case of the Copernican revolution) on the distribution of power among social institutions and interest groups.

The real significance of a science of subjective experience and "altered states of consciousness" is that it is in this area that our individual and social values are experientially and historically rooted. The development of such a science would redress what in retrospect is a puzzling discrepancy between the audacity with which man has pursued the physical, biological, and social sciences, and the timidity with which he has contemplated the possibility of developing a moral science. Already in the field of clinical psychology several scientists are proposing to formulate through their researches "a natural value system, a court of ultimate appeal for the determination of good and bad, of right and wrong" (A. H. Maslow), with "universal human value directions emerging from the experiencing of the human organism" (Carl Rogers). What may be in the offing is new means of obtaining consensus on value questions, by submitting them to the test of what is ultimately wholesome for the whole man.

The nature of the emerging premises

Thus, we have argued, there appear to be in the present situation (a) a *need* for drastic change in the pathogenic premises which have generated the world macroproblem, (b) an emerging *force* for change in the Great Refusal of youth, and (c) an emerging *supportive metaphysic* coming jointly from the nascent science of consciousness and from the collective inner explorations of millions of more informal investigators, particularly among the youth. What is this new metaphysic or, if you will, new religion? It would seem premature to attempt to describe the end state of a conceptual revolution which, if it is taking place, is certainly only in its beginning stages. Yet the signs seem clear enough to warrant a prediction.

Aldous Huxley (9) was one of the first modern writers to suggest that an age-old set of basic assumptions about the nature of man was showing new strength. We shall borrow his term, "The Perennial Philosophy":

> *Philosophia Perennis*—the phrase was coined by Leibniz; but the thing—the metaphysic that recognizes a divine Reality substantial to the world of things and lives and minds; the psychology that finds in the soul something similar to or even identical with, divine Reality; the ethic that places man's final end in the knowledge of the imminent and transcendent Ground of all being—the thing is immemorial and universal. Rudiments of the Perennial Philosophy may be found among the traditionary lore of primitive peoples in every region of the world, and in its fully developed forms it has a place in every one of the higher religions. A version of this Highest Common Factor in all preceding and subsequent theologies was first committed to writing more than twenty-five centuries ago, and since that time the inexhaustible theme has been treated again and again, from the standpoint of every religious tradition and in all the principal languages of Asia and Europe.

The basic proposition of the "Perennial Philosophy" is an experimental one, that man can under certain conditions attain to a higher awareness, a "cosmic consciousness," in which state he has immediate knowledge of a reality underlying the phenomenal world, in speaking of which it seems appropriate to use such words as infinite and eternal, Divine Ground, Brahaman, Godhead, or Clear Light of the Void. From this vantage point, one's own growth and creativity, and his participation in the evolutionary process, are seen to be under the ultimate direction of a higher center (Atman, the Self of Vedantic writings, the Oversoul). Ordinary perceptions of one's life and of one's environment are likened to the perceptions of a hypnotic trance. Such phenomena as extrasensory perception, precognition of future events, levitation and other psychokinetic events, "instant" diagnosis and healing, etc., are only extraordinary, not *a priori* impossible.

The basic assumptions of positivistic science stand in relationship to the Perennial Philosophy much as Newtonian mechanics relates to relatavistic physics: They are in no way invalidated for those aspects of human experience to which they are appropriate, but comprise a special case, a limited form of the more general theory. Similarly, the philosophies of materialism and idealism are to each other as the wave and particle theories of light and matter; each fits the world as seen with a particular mode of observation, and a complementary relationship holds between them.

Of course the Perennial Philosophy is not new to Western culture. It is present in the Rosicrucian and Freemasonry traditions. Its symbolism in the Great Seal of the United States, on the back of the one-dollar bill, is testimony to the role it played in the formation of this country. It also appears in the Transcendentalism of Emerson, the Creative Evolution of Bergson, and the extensive writings of William James.

Whether one ascribes its recent popularity to increased intellectual openness and tolerance or to anxiety brought on by the nuclear threat, indications abound that increasing numbers of persons are taking its premises seriously. Rising book sales in metaphysics, transcendental philosophy, Eastern religious philosophies, and parapsychology indicate growing interest in these related areas. Metaphysically-oriented churches, societies, and study groups are much in evidence.

Part of society's thus far negative reaction to monistic and Eastern kinds of beliefs as they have appeared in the hippies' culture, the drug scene, and numerous cults has been due to the fear that they would lead to quietism and withdrawal and, therefore, would undermine the social structure. Although it is true that these beliefs have been associated with the Eastern world, there is in fact nothing in the Perennial Philosophy which is contrary to virile and active participation in economic and political affairs. Neither are these premises in any way contrary to a high-technology society; they only say something about the ends to which that technology would be put.

Should these forces prevail and some sort of transcendentalist premises come to dominate the culture, the consequence would be a social and historical phenomenon of magnitude comparable with the Protestant Reformation. It might well be accompanied by as pervasive and varied changes in the whole socio-cultural system—organizational forms, roles, norms, traditions, power concentrations, and social processes—as accompanied the rise of the Protestant ethic.

An urgent educational task

If the foregoing analysis is sound and the challenge of the times is as represented, then it would appear that responding to this challenge is an educational task of the highest priority. In saying this we are not referring solely to the schools. To be sure, it is all of us who need to educate ourselves:

(1) To emotional as well as intellectual awareness of the ineluctable fact that we are one race, on one planet, and that only we can take responsibility for the fate of both;

(2) To the shift in basic premises and operative values necessary for a tolerable future, and to the evidence that such a shift is also congruous with the essential nature of human beings; and

(3) To the realization that, even if such a transition is made, the strains on the social structure in the decades just ahead will be of such magnitude that a strong binding force will be required to hold it together—a task which must be shared jointly by the agents of education and the agents of order and law.

The agents of education are, we must remind ourselves, the schools, the churches, advertising, propaganda, television (broadcast, pay, and cable), social change efforts, psychotherapists—all of those activities which are carried on with the deliberate purpose of effecting some change in the individuals involved. The part of this total education which goes on in the formal educational system may be a decreasing fraction in the seventies. Educational policy which is to be responsive to the needs must be based in this total picture.

However, even if educational policy concerns itself with all these *deliberate* attempts at education and change, its ability to bring about changes in perspective and values may be quite limited. Even more to the point than deliberate change may be fostering creative change where it appears spontaneously. A particular case in point is the "Great Refusal" of youth, previously referred to. Perhaps the most serious threat of the near-term future is the possibility that we will fail to discriminate accurately between creative and destructive components of social change forces in the contemporary situation and, through fear, may move to repress the whole, thus taking dangerous steps in the direction of a police state.

In this brief paper we have attempted to suggest that the most crucial issues bearing on educational policy choices are not necessarily the most obvious ones. If the wrong issues are addressed, the policy which emerges will inevitably be faulty. The most important issue in this nation may well not be one involving radicals versus conservatives, or youth versus middle age, or haves versus havenots, but rather one between those who assume that the future can be more or less like the present, versus those who are convinced that the pathogenic premises and values in the culture are going to have to be replaced by more constructive and humane ones.

The macroproblem which the world faces, and which is rapidly and ineluctably becoming more serious, is at root a problem of value and basic premises—in short, a moral problem. Thus the kind of leadership required is moral leadership. The United States could reassert its role in this domain, but only if we first eliminate our own confusion. It would seem to follow that the paramount educational task for the nation is the fostering of a unifying national purpose, the developing of a will to build toward a nation "with liberty and justice for all" and to take the lead in "the stewardship of the future".

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RETHINKING THE ROLE OF THE FEDERAL GOVERNMENT IN ELEMENTARY AND SECONDARY EDUCATION IN THE SEVENTIES

Robert W. Hartman, Research Associate, and Alive M. Rivlin, Senior Fellow, The Brookings Institution, Washington, D.C.*

The Federal government's elementary and secondary education program [1] is now in mid-adolescence. It has just completed an enormous, but episodic, growth spurt. The pimples are beginning to show and an identity crisis can be clearly identified. As adulthood approaches, three potential avenues of emphasis seem possible.

1. The Federal government can try to increase the resources flowing into education and redistribute those resources toward areas of the greatest educational need. This role implies a major emphasis on general aid or *general support* distributed to States or school districts in accordance with a formula reflecting some measure of educational need.

2. The Federal government can try to stimulate particular kinds of education. This role would imply emphasis on aid to *special categories* or fields in elementary and secondary education.

3. The Federal government can try to change and improve the quality of education. This role implies an emphasis on *creating new resources* for education—recruiting and training new kinds of teachers, developing and testing new methods or curricula, and aiding the introduction of new organizational forms in elementary and secondary education.

The Past

Each of these potential thrusts of effort has some historical precedents at the Federal level, and a brief review of present budget allocations gives some idea of the current relative roles of our three categories.

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[1] This paper will concern itself mainly with programs of the U.S. Office of Education, which dominates Federal elementary and secondary efforts.

*The views expressed in this article are those of the authors and do not represent the views of other staff members, officers, or trustees of The Brookings Institution.

In Table 1 we have shown for fiscal year 1969 a detailed accounting of the Office of Education budget (excluding higher education and international activities). It is evident that general support programs dominate the budget comprising 65 percent of our budget total. Categorical aid represented the next largest share, with resource-creating activity just under 17 percent of the total. Some hint of the priorities of the present administration is given in the 1970 fiscal year budget shown in the second column. The fastest growth is in the resource-creating category with general support programs showing an absolute decline. Some categorical programs are proposed to be phased out, while others are growing moderately. We believe these trends will—and probably should—continue in the next decade. To see the reasons for this requires that we look at some key programs and problems in each area.

General Support

We have classified two major programs of the Office of Education as "general support": Impacted Areas (School Assistance in Federally Affected Areas) and Disadvantaged Children (Title I of the Elementary and Secondary Education Act).

TABLE 1.—OFFICE OF EDUCATION BUDGET [1]

[Dollars, in millions]

	Fiscal year 1969	Fiscal year 1970 [2]
I. General support:		
Impacted areas	521	202
Disadvantaged children	1,123	1,226
Subtotal	[3] 1,644	1,428
Percent	(65)	(64)
II. Categorical aid:		
Vocational education [4]	248	263
Handicapped	30	32
School libraries, equipment		
Remodeling, media services, films	133	5
Miscellaneous, including guidance, testing, strengthening State departments	47	30
Subtotal	459	330
Percent	(18)	(15)
III. Resource-creating:		
Training	153	163
Research, demonstration projects, planning and evaluation	108	186
Title III (supplementary Educational centers) State-run programs	165	116
Subtotal	426	466
Percent	(17)	(21)
Total	2,529	2,224

[1] Excluding higher education, international programs, salaries and expenditures of Office of Education, aid to community and college libraries, adult basic education.

[2] Nixon administration revised budget.

[3] Totals off, due to rounding.

[4] Less training, innovation, research, which are included in III.

Impacted Areas is clearly a general support program. Money is allotted on a formula basis to districts having concentrations of children who either live on Federal property or have a parent employed by the Federal government. Once a district receives its funding entitlement, it can merge these Federal dollars with State and Local revenue to provide financing for its school programs. There are no Federal strings controlling how the money can be spent.

Impacted Areas aid, whose history stretches back 20 years, is a classic example of a program which has outlived its usefulness but whose constituency keeps it alive and thriving despite senescence. Originally intended as a highly targeted program for school districts facing financial disaster because of the influx of Federally-connected (mainly military) families with children without a concomitant growth in the Local tax base, the program has now expanded to include over 4,500 school districts. Many of the current major beneficiaries of Impacted Areas assistance are school districts that can hardly be claimed to be facing financial disaster:

Montgomery County, Maryland, one of the richest counties in America (median family income, according to the 1960 census, $9,317) was allocated $57.20 per pupil in fiscal year 1969. Baltimore city, with a median family income of only $5,659, was entitled to $8.39 per pupil. While the median income of Baltimore families is 39 percent less than Montgomery county family income, and Baltimore has 66 percent more public school children, Montgomery County receives more than four times as much Federal aid under this program.

Brevard County, Florida, which according to the 1960 census is the richest county in that State, had only 60,000 students enrolled in its public schools, yet in fiscal year 1969 was allotted $800,000 more than the entire city of Chicago. If Cape Kennedy imposes a fiscal burden on Brevard County, no area politician seems to have complained.

While some small districts with major Federal installations may need special help, it is clear that the Impacted Area program has outlived its usefulness and cannot serve as a vehicle for the general support of education. The formula simply does not channel money to those districts where educational need, on any reasonable criterion, is greatest.

Title I of the Elementary and Secondary Education Act gives money to school districts with high concentrations of low-income children. One might question classifying this program as "general support" because the money is targeted to a particular group of children, and the administration of the act involves approval of local projects by the States before Title I money can be spent. Nevertheless, in practice, there are virtually no strings on the purposes for which the money can be spent.[2] We believe that, in effect, Title I is mainly a general support program for the redistribution of resources toward districts with concentrations of poor children.

Viewed as a general support program, Title I is clearly much better designed than Impacted Areas. The formula does seem consistent with present priorities in that it allocates more funds to poorer States and within States to those Localities which bear a heavy burden of educating low-income children. Nonetheless, Title I has not been notably successful in dramatically improving the school performance of poor children. To our mind the reasons for this are:

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[2] For an attack on the lack of exercise of governmental control, see *Title I of ESEA: Is It Helping Poor Children?*, Washington Research Project of the Southern Center for Studies in Public Policy and The NAACP Legal Defense and Education Fund, Inc., Revised Second Edition, December 1969.

The prime cause of unequal dollar outlays for students from varying family backgrounds is the reliance of school budgets on Local finance, with all that implies for unequal tax bases behind each child, and on insufficiently equalizing State aid. Title I has been too small (about $1 billion a year out of almost $40 billion total elementary and secondary expenditures) to overcome the interdistrict imbalances in State-Local support.[3]

Even within school districts, fragmentary evidence seems to indicate that disadvantaged children attend schools that are below the district-wide average in teacher ability, facilities, etc. Although Title I can be, should be, and to some extent is used to equalize expenditure within school districts, meaningful equalization within districts depends on the full disclosure of school statistics in school districts and on the exercise of control by deprived neighborhoods. Title I could not achieve these changes.[4]

Finally, Title I has not worked as intended, or hoped, in part because adequate knowledge does not exist on how to spend the funds for maximum achievement payoffs. We will return to this theme later.

What all this amounts to is this: a Federal program of general support, designed especially to have impact upon the achievement of the disadvantaged, will have to be big enough to compensate for State-Local finance inequalities, directed enough to ensure that the right people receive benefits within districts, and accompanied by enough good knowledge and patience to try new techniques specially designed for low-income children. Title I could serve as a vehicle for such a general support program, but only with added clout in terms of funding level and in terms of impact on State-Local school finance patterns.

Categorical Aid

In the late 1950's, after the Sputnik episode, there was a sudden focus of national attention on particular types of education, especially mathematics, science, and foreign languages, in which American schools were thought to be weak. The response of the Federal government was to enact a series of categorical aids to stimulate these kinds of education. This process of sporadic response has resulted in an Office of Education budget replete with special line items for purchases of things (library materials), or special education programs (vocational education) or aid to specific types of people (handicapped). With the exception of the last category, the special requirement for a *Federal* role is not at all clear to us. Specifically, why should the Federal government allocate specific sums of money to the purchase of school library resources and none to, say, medical insurance for teachers? Why support vocational education programs and not supply operating funds for the artithmetic curriculum? Why support guidance, counseling, and testing, but not geography, calculus, and typing?

Moreover, is it clear that the purposes specified in the laws are really the ultimate beneficiaries of these Federal funds? Or are the fundible Federal dollars mixed in the school budget pot, thus constituting general support?

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[3] See James W. Guthrie and others, *Schools and Inequality*, The Urban Coalition, 1969, for a discussion of the consequences of fiscal mismatch in school finance in Michigan, probably a typical or better-than-average State.

[4] See *Title I of ESEA: Is It Helping Poor Children?*, especially pp. 15–19.

Whatever the case in the past, the case today for these categorical programs is the same as for general support; namely, that there is a national interest in increasing the flow of resources into education beyond what States and Localities will do on their own and that there is a national interest in equalizing resources by aiding the neediest districts. Neither of these arguments implies that Federal support should be on an item-by-item basis.

Recently, the administration has made efforts to consolidate several categorical programs under one appropriation, leaving it to the States to decide how to spend the funds. This (so far unsuccessful) attempt seems to us warranted and, in the limit, it implies the end to all categorical programs and their merger with existing general support programs, or conversion into temporary innovative programs. More on this later.

Resource-Creating Programs

There is plenty of evidence that American education could be much better. Not only are inner-city and rural schools failing to teach poor children the basic skills they need to get along in modern society, but the creativity and imagination of all children could be far better stimulated than it is. However, there is almost no real knowledge about how to make schools more effective. The Office of Education has tried to respond to the gaps in know-how in a fragmented manner.

The number of administrative forms of resource-creating programs in the Office of Education is considerable. They include:

- Title III ESEA funds, which are now distributed to States which redistribute the funds only to a school district (or a combination of school districts).
- Vocational Education Innovation programs under which half of the funds are allocated by the States and half by the Commissioner of Education.
- Bilingual and Cooperative Research funds under which project grants are made at the Federal level (although some Cooperative Research funds are used to fund R&D centers and laboratories which, in turn, decide which projects to support).

The scope of activity supported under the resource-creation heading is equally diverse, spanning basic and developmental research, demonstrations, dissemination of research, and evaluations of government programs as well as in-service, fellowship, Teacher Corps, and institute activities on the teacher-training front.

The upshot of the wide range of activities now supported by the Federal government in this area—and Federal support plays the major role in educational research—has been a distressing inability of the Office of Education to persuade either the Bureau of the Budget or the Congress that this activity is really worthwhile! Capitol Hill has not been able to get a coherent answer to "What have we bought with those funds?" The result has been a substantial amount of budget-cutting, especially for research activities, in the Congress.[5]

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[5] *Department of Labor and Health, Education, and Welfare Appropriations for 1970*, Hearings before a Subcommittee of The Committee on Appropriations, House of Representatives, 91st Cong., 1st Sess. (1969), Part 5, p. 932.

The Future

The present Federal education budget is largely the result of past exogenous events that impelled the Executive and Legislative Branches to act. Over the next decade, the key events that will probably impinge on Federal decisionmaking are:

- A significant slowdown on the growth of elementary and secondary enrollments in the first half of the 1970's, significantly reducing the pressures on State and Local governments for expanding school funds just to stay even. A reduction in teacher salary increases is also probable, as the supply of teachers outruns the demand.
- Possible institution of Federal revenue-sharing programs with at least the possibility that State governments will use the proceeds for enlarged support for education.
- A growing movement toward financial reform in State support for public education. We refer to recent legislation in Michigan to have the State assume virtually all school support responsibilities, reducing the role of Local property taxes.

The realization that, at least for the first half of the decade, the Federal fiscal dividend available from economic growth and reduced war expenditures will be eaten up in large part by virtually uncontrollable expansion in noneducation parts of the Federal budget. Much of the rest will be consumed in other social action areas: welfare and environmental control, for example.

These events seem to imply that really big budget increases for elementary and secondary education are out of the question. Unless Congress provides a growing Federal tax base or makes substantial absolute cuts in defense spending, it is impossible to find, say, $10 billion for Federal elementary and secondary expenditures by fiscal 1975. Moreover, State and Local governments will have a golden opportunity in the next decade to reform their school support systems, redirecting their funds to areas of greatest need.

Where does this leave the Federal role in the 1970's? As we see it, the only feasible and sensible choice for the Office of Education, at least for the first half of the decade, is to adopt a dual role: 1) *emphasis on resource-creating activities and* 2) *redirection and consolidation of existing general support and categorical programs to catalyze reform at the State and Local level.*

The Federal Role in the 1970's

Even if financial reforms take place and cities, in particular, come to find themselves in the unaccustomed position of having large incremental funds to spend on elementary and secondary education, there is some question in the minds of many observers as to whether money could be spent effectively. Hard choices will have to be made: smaller classes? better equipment? smarter teachers? new curricula? teacher aides? Money will not be available for all these possibilities and the state of knowledge is not now sufficiently powerful to tell the most willing school superintendent which alternative is best for his district. Moreover, there are few Local districts that will have the wherewithall or political guts required to mount a test of alternative modes of education to find out which ones work.

Enter the Federal Government. The Office of Education can be turned into a vehicle for systematic attack on the key gaps in knowledge about how to educate, into a seed-money provider for innovations in education, into a demonstrator of best (alternative) educational practices, and into an evaluator and reporter of what works and what does not. But this role cannot be accomplished under the arrangements for resource-creating activities now extant at the Office of Education. Here are the major changes we feel would be necessary:

- A great deal more control and direction are needed for the research effort. Fifty different State-administered research programs may reduce some people's fear of Federal control, they do not produce a systematic analysis of educational problems nor do they produce usable answers to those problems. The research decisionmaking process in Federal scientific agencies (e.g. NIH) offers an alternative of centrally-directed, systematic research programing. We need more of it in education.

- A key to progress in educational research is willingness to try bold assaults on traditional practices through Federally-sponsored experiments. For example,

a program to give students vouchers for educational services, allowing them to purchase same from public or private schools.[6] Such a scheme might start on a small scale, for example, by entitling only children from welfare families to such aid;

a substantial effort to demonstrate what gains can be made from substantial broadening of pay and activities differentials for school teachers. Such experiments might include the abolition of all existing certification requirements. On a small scale, such a program would work through target neighborhoods, perhaps in Model Cities areas.

Our point here is that experiments of this type are not likely to be warmly embraced by the education establishment, and strong leadership from the Office of Education will be required. It is possible that new administrative structures will be necessary to insure that innovative efforts can be carried out.

The role we see for the Office of Education as innovator, experimenter, and organizer of research will cost substantial sums of money. But big money in this role comes cheap by comparison to big money for support of regular school operations. As we see it, a reasonable target for resource-creating support by the mid-1970's might amount to $4 billion, about what was spent in fiscal 1969 on NASA's research and development activities. Money for these activities can be found only through a tightening of existing general support and categorical budgets. That is, those lines of the Federal budget that are not research, development, training, and the like must be held down to a very low level of expansion.

Recent experience with attempts to redirect the general support and categorical lines within a constant OE budget do not augur well for the future. In fiscal 1970, both Johnson and Nixon budgets attempted to cut some traditional and out-dated programs in order to expand some others that were thought to have higher priority. As of this writing, the attempt seems to have failed; its only success was in stimulating the emergence of an education lobby that managed to persuade Congress to add funds (for the obsolete programs as well as the priority items) to the education budget. This strategy will not do. Some sort of radical move is required if the constraints of a modestly growing total OE budget and a rapidly growing resource-creating budget are to be maintained.

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[6] See Henry M. Levin, "The Failure of the Public Schools and The Free Market Remedy," *The Urban Review*, Vol. 2, No. 7 (June, 1968), pp. 32–37, for a good review of voucher programs.

We believe that *all parts of the Office of Education budget, with the exception of resource-creating components, should be consolidated into a single appropriation that would amount to a block grant to States.*

We would allocate the funds among States by a formula based on "relatively need"; that is, children with "special education needs" (financially disadvantaged, migrant, handicapped, non-English speaking) would receive a heavier weight than all other children. In addition, the formula for allocation would reward States for educational effort; that is, allocations would be larger for States whose ratio of education expenditures to *above-poverty levels of income* is higher than the national average.

States would be free to spend the funds for any elementary or secondary educational purpose they choose, with only the following restrictions:

The State must demonstrate to the Commissioner of Education that its education grants-in-aid to local education agencies (including the Federal portion) are distributed in such a way that "special needs," as defined above, as well as special financial burdens (such as presence of nontaxable Federal property, or demonstrable cost differentials—the so-called municipal overburden) have been accounted for.

The State must demonstrate that it has instituted a public reporting system such that school board members and the general public are given a detailed accounting of the uses of educational funds and of educational outputs on a school-by-school basis.

The State must demonstrate that its aid-to-education expenditures do not encourage the racial segregation of classrooms.

The function of this merged and consolidated Federal-aid package (which in fiscal 1969 would have amounted to $2.1 billion) would be to use a modest amount of Federal general support for education as an incentive for States to pattern their own support programs along progressive lines. A consolidation of all elementary and secondary appropriations into one item should supply enough of a critical mass to make the incentive a crisp carrot, if not a weighty stick.

We hate to close on a note of self-doubt, but our enthusiasm for growth of the Federal role in innovation and a consolidation of all other general support and categorical aids into incentive block grants is not matched by good readings from our crystal ball. The list of likely supporters of our proposal is small. Without becoming self-righteous about it, however, we would like to ask those who advocate new categories of aid and massive funding of existing categories whether:

- They are really confident that, without greater Federally-supported research and demonstration, the funds so appropriated would be wisely spent relative to other domestic uses of Federal funds, and whether

- They do not feel, as we do, that the use of Federal funds to reform State education plans and to pledge greater discretion, coupled with accountability, at the State and Local level is a necessity if more equal educational opportunity is to be realized by 1980.

SOME ELEMENTARY AND SECONDARY EDUCATION NEEDS FOR THE SEVENTIES

J. Thomas Hastings, Director, Center for Instructional Research and Curriculum Evaluation, College of Education, University of Illinois, Urbana, Ill.

This paper is not aimed at specifying new Federal legislation nor amendments to existing legislation. The intent is to suggest a number of areas toward which the attention of those who are equipped to specify legislation might direct their attention profitably. In some cases the concerns suggested may imply new areas for Federal initiative and stimulation. In most cases, however, the needs described suggest at best a refocusing or an expansion of some of the best of the legislation we have had during the past five years. The seventies will be different from the sixties but they will grow out of the problems, issues, and the capabilities of today.

The following pages deal with four somewhat related areas of concern. They are (1) the training of teachers, (2) new modes of community input, (3) time-organization of the schools, and (4) evaluation-accountability in the educational effort.

THE TRAINING OF TEACHERS

From 1955 through 1968 I have been privileged to work with some two dozen curriculum projects. Many of these were funded by the National Science Foundation; others were funded by the U.S. Office of Education. Each and every one of them arrived at some point in their development at which they agreed that the training of teachers to use their materials was the major item of their concern. Various ones of the projects took various approaches, but each of them ended up feeling that pretraining at the undergraduate teacher level together with follow-up training (continuing education) after the teacher was in the field were both necessary if one were to get real change in education. Teacher behavior in the classroom, by inferences from research in teacher education and in behavorial modification and social psychology, is influenced by three major factors: (1) modeling from the experiences they have in their own educational experience, (2) behavior modification brought about by rewards contrived for specific acts in the teaching situation, (3) the role which they find demanded in the local school system by which they are employed.

A history teacher at the secondary level is quite apt to teach secondary-school students as he was taught history at the collegiate level. His behavior in the classroom may be modified somewhat by his rewards (or lack of rewards) for his acts in student teaching. His behavior in the classroom may still be changed by the fact that in the school system in which he gets a job either factual learning—important historical dates—or a problem-solving approach may be dominant.

The foregoing brief and oversimplified analysis suggests that three parties be in on the training of teachers—both pretraining and continuing training. The three parties are the members of the discipline in which he is trained, the persons who are involved in his professional education courses, and the school in which he is to practice. Obviously, it is impossible to know in what school a given individual will be employed. Therefore, some sampling of school types must appear in the training of each teacher. The foregoing analysis of considerations in the teacher's training suggests that the disciplines together with the professional education courses must cooperate with the operating schools to develop a teacher-training program.

All of this suggests that for teacher-training purposes we need some kind of combine of schools, disciplines, and professional education, each of which sees the others as important components. We have a hint at the beginning of such arrangements in some of the projects which come under the U.S. Office of Education program called "The Training of Teachers of Teachers," but what we have now merely foreshadows what we actually need.

The idea of a training complex which would involve the three elements just mentioned is discussed somewhat in the book, *Teachers for the Real World*, (B. Othanel Smith in collaboration with Saul B. Cohen and Arthur Pearl, The American Association of Colleges for Teacher Education, Washington, D.C., 1969). Although the idea is conceptually fairly simple, three rather difficult things will have to be done to actualize the idea. First, there will have to be a change in the public and the professional view concerning what it means to develop and maintain a professional teacher. Second, we need to alter some of the institutional traditions in our schools, in our colleges, and in the graduate schools of universities. Third, a new training technology (which has a beginning in a few places now) will have to be developed along with the materials to support that technology. The best way, if not the only way, to accomplish all three of these things is through some all-out investment of time, energy, and money in a few—perhaps two to six—educational complexes which would weld together a sizable number of established school districts, with some recognized undergraduate and graduate colleges.

The Federal policy which would support such a venture would have to include a long-term (six to eight years at a minimum) commitment to support; a recognition of the need to establish such complexes in a fashion that would sample across educational requirements of the ghettos, the suburbs, the towns, and the rural areas; and a recognition that final evaluation would have to be withheld during a developmental period in which there would necessarily be some problems of false starts and changes in strategies and tactics. This latter point does not mean that there would be a lack of accountability. There should be continuous evaluation for the purpose of feedback to the system. The Federal policy should insist upon that kind of management and should expect to provide the money for its accomplishment.

NEW MODES OF COMMUNITY INPUT

In the preceding section I mentioned three groups—the schools, the professional educators, and the academy of disciplines—which needed to be included in teacher training in particular if the schools are to be improved. Toward the end of the 1960's we have seen an increase in the community's desire to have something to say about its schools. This has been particularly so in the ghetto although the situation does exist elsewhere. In the wealthier suburbs the school has tended to be more accountable to the parents and the rest of the adult community. Its modes of operation, its subject matter, and its standards have carried more credibility in the upper and middle classes because all of these things seemed relevant to the goals and aims of that segment of our society. The same things seemed less than relevant to minority groups and persons in poverty situations. Because of other factors in our society, there is a very strong chance that the plea for more community input, particularly but not solely on the part of the blacks, will grow tremendously and will spread to more areas outside of the inner-city situations.

As a nation we have placed a high value on the *idea* of local control of schools. Federal policy has certainly appeared to recognize that value and has kept its own "control" at a minimum. There is little doubt that this policy should continue. There is, however, much more to the idea of local control than the absence of outside interference with types and forms of studies, with organizational structures, and with standards which are implicit or explicit. If there are segments of the school communities which have no voice (or perceive that they have no voice) in the general aims and the forms of schooling as well as in the standards, then the idea of local control is as much in jeopardy as it would be with outside interference.

Over the past few years there have been a sizeable number of cases in which there have been attempts—some forced—to involve minority groups and other segments of the community in decisionmaking and policy formation for their own schools. Some of these attempts have seemed to work fairly well; in other situations the charge has been leveled that there has been too much interference with "appropriate professional management of the schools." Many different forms of input have been tried. Some have tried placing one or more blacks on the board of education or other policy-forming bodies. Others have tried instituting advisory committees having direct contact with either the school's policy body, the school administration, or both. Some have tried putting plans, while they are still in a formative stage, before small groups from the community for the purpose of input from many segments.

Certainly there have been studies of school administration, policy formation, and communication with the community. Some excellent studies of this general sort have been and are being conducted at the Center for the Advanced Study of Educational Administration at the University of Oregon. In other instances there have been studies of a particular situation in a particular community. These latter studies for the most part consist of an historical treatment of events, decisions, and actions. With increasing pressures for local autonomy and community input, there is considerable urgency for evaluating the devices being used and for the invention of new devices to achieve this end. It is certainly time for the Federal policy of minimizing outside control to be accompanied by an explicit, affirmative policy of helping local communities develop and use appropriate modes of local decisionmaking. The Federal government should take initiative in encouraging various forms in local communities and in encouraging the evaluation of these in terms which say more than "It works" or "It does not work." There should be attempts in the evaluation to get at the why of such outcomes. Undoubtedly, the effectiveness of various forms of input will vary from community to community depending upon local conditions.

The conduct of such a program would require task forces involving a rather wide range of expertise—from school administrators to management specialists, from sociologists and cultural anthropologists to persons trained in law, from historians or journalists to communication experts. The results should be looked at in terms of credibility as well as in terms of better decision-making. If other educational legislation is to succeed in its aims in the seventies, credibility of the local efforts in the eyes of the local community is a must.

TIME-ORGANIZATION FOR LEARNING

For many, many years the vast majority of schools in the United States have been organized for ages 6 to 18, on a five-day week, on a 9- or 10-month year basis. In part this grew out of an agricultural setting coupled with a concept of education as a series of stepping stones rather equally placed and with a very definite termination. Many, many schools retain this time-organization even today. It is true that over the past two decades, with acceleration in the last five or six years, we have seen a number of changes in this standard plan in an increasing number of institutions. For example, we have seen the institution of ungraded primary schools and even, in some instances, secondary schools. There has been a steady growth in kindergarten and nursery facilities and the addition of grades 13 and 14 in the form of junior colleges. In an increasing number of schools, extension services have provided what in essence is elementary- and secondary-school training for adults in the community. Many of the smaller school districts throughout the country have wanted to alter in these ways but have felt prohibited from doing so because of the cost-efficiency due to smallness of numbers. The changes themselves have tended to come about with a Topsy-like growth. Most people in most communities still see the school in its older form.

If we are to meet the societal demands of the seventies in terms of the stated and implied purposes of elementary and secondary education, changes in the time-organization will have to move more rapidly and will have to cover far more schools in the country. Political, social, and economic needs are such that we cannot afford to let whole sections of the country remain in a mold which curtails the possibilities of education.

There is little logical reason why schools should not operate on a year-around basis. This does not necessarily mean that either individual students or individual faculty members or administrative personnel should be employed at their pursuits—or the same pursuits we now follow in the schools—for the full 12-month period. It might be that some students would partake of a shorter period of the year than would others. It might be that this would differ for a given person from one age or educational level to another. There is every reason for schools to serve all people of the community who are in need of elementary-secondary education regardless of age. This would include those who need retraining in skills and knowledges as well as those who either dropped out at some point or who, for one reason or another, simply missed some basic skills and understandings.

Such changes as the foregoing require money—money which many communities do not have. However, they require more than money; they require a marked change in the conception of the elementary-secondary school held by most people. Ideally, local school personnel and their constituencies could bring about such changes if they wanted them. Unfortunately, the apparent choice to do so is not a real choice so long as the traditional conception is fixed. External encouragement to change is necessary. Furthermore, the "right to read and write" for every person is no more a right which can be left to local decision than is the right to vote. The same can be said of the right to acquire other elementary-secondary skills and understandings. For these reasons, an affirmative Federal policy to encourage a changed conception of the time-organization of the elementary-secondary school is urgently required.

One can see the day when schools are in operation (but not in lockstep operation) six days a week for 12 months out of the year and are affording the opportunities of elementary-secondary education from very early ages to the grave. We do have models for some of this. Vocational-technical education has been an area in which Federal policy has encouraged wide availability. Our increased knowledge concerning early childhood education has given us possibilities of being more useful to the 3- to 5-year-olds and in the bargain making them more useful to our society. There is no doubt that schools will eventually change in these respects, but 1990 will be too late. Only by Federal intervention can we shorten the time. We need the trained people now.

EVALUATION-ACCOUNTABILITY

Evaluation of education endeavors—Federal programs, State projects, school systems, new curricula—has been developing a new technology in the past five to seven years. The need for this technology and some of its aspects appear in most available form in the *AERA Monograph Series on Curriculum Evaluation*, published by Rand McNally & Company. The first in the Series (and there are now three volumes and will be eight or nine) was published in 1967 and contains an introductory article entitled "Toward a Technology for the Evaluation of Educational Programs," by the editor, Robert E. Stake. A quote from that article should help make the point of this section of the current paper.

> How about the educational consumer? Can the teacher, superintendent, and curriculum coordinator choose wisely? Far too little information is now available. Little is known about the merit and shortcoming

of products and programs. For excellence in education we need excellent books and excellent teachers, but our methods of recognizing excellence are inadequate. For a few years, at least, there will be little quality control of goods produced by Research and Development Centers, by the growing curriculum-innovation projects, and by the newborn instruction industry. Much of the forthcoming educational output will be excellent, but not all. We grade the eggs a buyer cannot grade for himself and we legislate automobile safety standards. Yet far more crucially than eggs or automobiles, educational programs shape our future society. Should educational programs continue to escape formal evaluation?

In the last three or four years much has been done to improve the techniques for going about such evaluation. New techniques of observation and the collection of judgments have been developed. As one would expect, different individuals or groups of individuals at different institutions have developed different views of the goals, roles, and strategies of evaluation. As one looks at the total scene, however, the differences are in part analogous to those differences among the descriptions of an elephant given by the several blind men: various people have tended to concentrate upon various aspects of the total job of educational evaluation. The main point is, however, that out of the five or six main centers in the United States focusing upon evaluation there is emerging a new technology which can afford the methodologies and the techniques which will help considerably in making educational change or conservation more rational.

Out of the welter of new approaches, new techniques, and new instruments has emerged at least a handful of ideas which are important to mention here briefly. The first is that educational evaluation is not and need not be equivalent to educational-psychological measurement. Over a 30-year period at least the latter is exactly what was meant by the phrase, "educational evaluation." Today it is visualized in a much broader fashion to include the skills and techniques of the historian or journalist, the approaches to valuing which are part of the domain of the philosopher, the special approaches to problems used by the sociologist or cultural anthropologist, and the special ways of looking at cost-benefit which have been developed in the conceptualizations of the economist.

A second important idea is that educational evaluation is not equivalent to research. It is true that some of the techniques for design, data collection, and data analysis are common to both areas. However, where research is aimed at broad generalization across individuals, situations, and time, evaluation is and should be aimed at locating the various worths of a specific program or product or activity in a specific setting. Use of this concept is allowing the evaluator to avoid the trap of studying only those things which he can measure precisely and hold constant. Much good evaluation heretofore has been lost by *not* avoiding that trap.

A third big notion is that there are at least two discernibly different roles of evaluation. One of these has been called "formative evaluation" and has to do with feedback of information during the development of a project, a new product, or a large program. This is the kind of evaluation needed in order to make changes rationally during developmental stages. The other role of evaluation is that of locating the various worths of a "finished" product—hardware, a text, a new curriculum, or a new time-organization format. Generally the purpose of this latter type of evaluation is to allow the "buyer" to make more rational judgments about his decisions to use or not to use.

During the 1970's as never before, largely because of the increasing demands on our national and local resources, accountability must be the order of the day. The new technology of evaluation will help greatly with this accountability, although accountability and evaluation are not identical. Federal policy must insist upon evaluation and accountability. However, such insistence would carry with it the responsibility of providing the kinds of money which are necessary for evaluations of the newer order. It also carries with it an obligation to make use of evaluations in arriving at decisions.

Because evaluation is new and because evaluation and accountability are in ever-increasing demand, there is a tremendous need for programs for both short-term and long-term training experiences to develop more people capable of conducting evaluations. Most centers which are involved in evaluation—and there are not many of them—find themselves swamped with demands for helping school systems, national programs, local projects, and State departments of public instruction. Our universities, in conjunction with our schools, must be encouraged to develop appropriate plans for the training of educational evaluators.

Elementary-secondary education in the United States will grow stronger and better during the seventies not because we will have solved all of the problems but because we will have attacked the problems on a national level and with an appropriate share of national resources in terms of money and dedicated personnel.

EDUCATIONAL LABORATORIES: THE DEVELOPMENT CENTERS OF THE SEVENTIES*

John K. Hemphill, Director, Far West Laboratory for Educational Research and Development, Berkeley, Calif.

As the U.S. enters the seventies, our school systems seem deeply troubled. Their needs are overwhelming, their resources apparently inadequate. And, the 1970 problems of our schools seem so complex that critics rarely can agree as to which ailment must be given priority. Moreover, some critics observe that the troubles of our schools today are due to failures on the part of the schools, themselves. Yet, by others, the schools are frequently seen as only one of the more conspicuous scapegoats in a sorely troubled society. In an era of accelerating change, a host of massive and complicated issues—such as technology, automation, poverty, alienation, and the population explosion—impinge directly on the schools and exacerbate their already acute difficulties. Thus, though the schools seem to be failing in 1970, the responsibility for their failure probably rests with all Americans, not just with educators.

Although we cannot predict with great confidence the events of this decade and cannot in a single essay discuss all educational needs, we shall deal here with five major problems that we are actively engaged in solving, illustrating each with concrete examples drawn from the programs of the Far West Laboratory for Educational Research and Development. Underlying all our work is the premise that the schools must, somehow, generate a capacity for self-renewal in order that all children may have more and better opportunities to learn. If this assumption proves accurate, the primary task of all educational institutions in the seventies will be to learn to adapt to change *per se*.

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*Walter Borg, Glen Nimnicht, Bela Banathy, Fred Rosenau, and Sylvia Obradovic contributed generously by providing many of the basic ideas that appear in this essay.

Federal educational policies can provide the stimulus for many such self-renewing mechanisms. Within that over-arching objective, Laboratory personnel anticipate a Federal commitment that will enable us to accomplish our highly-focused mission—in attacking the major problems of educational self-renewal, itself, of early childhood education, of preparation of teaching personnel, of information systems for communication and management, and of multi-ethnic education.

Federal policy must not become diffuse, nor should Federal efforts be dissipated in futile attempts to extinguish the alarming multiplicity of educational brushfires—the most obvious surface symptoms of contemporary society's deeper social ills. What is required, rather, is a stronger and continuing commitment to on-going institutions that now work closely with schools and colleges in solving basic educational problems. A "critical mass" of resources and talent must be committed for the seventies, in order to provide a capability for self-renewal within educational institutions.

SELF-RENEWAL

Elementary and secondary education must develop, now, effective mechanisms that will facilitate *change*—change in curriculum, in methodology, in structure, in all school operations. Successful industrial organizations utilize up to 10 percent of their resources and efforts in a continuing search for new products, new markets, new ways of functioning; for in a competitive world no organization can survive if it cannot provide for self-renewal. Yet the U.S. educational establishment, operating without the spur of competition, devotes less than one-half of 1 percent of its efforts and resources to the task of trying to keep pace with the insistent demands of a fluid, complex society.

To offset escalating costs, local taxpayers' resistance, and declining public confidence, substantial Federal subsidies will be required in the decade ahead. Schools today literally cannot train professional personnel, create new learning activities, or devise new organizational systems without help from external agencies. Unless they receive prompt and adequate assistance, the accumulation of maladjustments developed during the past half-century will soon engulf the schools and totally alienate the children and the communities they were created to serve.

Two other major obstacles must be considered, even assuming that ample funds were committed to the self-renewal function. First, the number of experienced professional people is totally inadequate for the educational research and development task we now face. If schools and colleges were immediately to begin training large numbers of people for a full-scale R&D effort in education, the relative handful of hard-pressed practitioners now available would be diverted from on-going developmental work. However, in view of insistent demand, those now engaged in educational R&D will undoubtedly be obliged to do double-duty during the seventies by carrying on training and development simultaneously.

The second major concern arises from the urgency of our educational problems and from the very real political and social pressures that characterize our nation today. Self-renewal—through research and development—is, by nature, a long-range process. If R&D organizations allow their energies to be diverted to provide instant relief in patchwork fashion for chronic needs or earlier deficiencies, not only may their own programs fail but the intended "quick" solutions are likely to be fragmentary and short-lived. Random and uncoordinated compensatory "programs" may have monetary, human, and political impact, but there is as yet no evidence that such hasty efforts can meet any worthwhile educational objectives.

Within the far-flung educational system, regional educational laboratories promise to provide a focus for research, development, and demonstration activities—for the creation, testing, and dissemination of promising new alternatives that can supplant or supplement older materials and practices. These new institutions could in the future generate even more dynamic structures, one of which is illustrated by the concept of *educational development centers*, to be integrated with the Model Cities program and developed in cooperation with major city school districts.

Such an educational development center is now being planned for the seventies in San Francisco. It will stimulate self-renewal by housing in close physical proximity a compatible group of synergistic educational projects, including the Far West Laboratory for Educational Research and Development, an experimental school, and other innovative efforts. Here educational problem-solvers will be able to share scarce and specialized facilities, cross-stimulate common interests and ideas, and foster mutual cooperation. All those committed to educational renewal will be able to work together economically in such a center so as to achieve common objectives. Specialized facilities and supporting services in day-to-day operation of this kind of center might include:

(*a*) A limited, but highly specialized library, which could contain a complete ERIC file, a collection of the most useful reference works, a collection of suitable professional journals, audiovisual resources, and much fugitive material of temporary and special interest in educational research and development.

(*b*) A multi-ethnic learning center open 14 hours per day to the community and to visitors from out-of-town. Carrels and other audiovisual facilities would aid users in acquiring basic learning skills and would provide bilingual self-instruction for both English-speaking and non-English-speaking learners.

(*c*) Television production capability which could become a significant source of the educational "software" so acutely needed if the promise of this educational technology is to be realized.

(*d*) A graphics and audiovisual production unit which could prepare instructional films, tape/slide packages, filmstrips, loops, and all manner of graphic materials.

(*e*) A unit, capable of reproducing and collating instructional material, that would at the same time train and provide new jobs for people in the local community. In the development of new instructional material it is important to be able to duplicate quantities of experimental or "draft" materials to be tested and revised. (This unit need *not* turn out finished printed materials which could be produced satisfactorily through arrangements with the Government Printing Office.)

(*f*) A fabricating capability, again training and employing people in the community, to produce simple objects needed to support instruction. The objects would consist of games, educational toys, demonstration apparatus, etc., made of wood, metal, cardboard, or plastic. This part of the facility would also provide a rich community resource for evening and weekend activities.

(*g*) An effective six-day-per-week demonstration arena, since educators need to see, touch, and experience new products and practices to develop interest in and understanding of them.

(*h*) Shared conference rooms and display areas which—combined with the active demonstration arena—could enable the facility to serve as an educational one-stop "shopping center" for a region.

(*i*) A training center—in cooperation with local universities—to overcome the acute shortage of much-needed educational development personnel.

(*j*) A small cluster of flexible "spaces" in which new instructional approaches, experimental materials, teaching strategies, and grouping arrangements might be tested on a short-term basis with small groups of teachers, aides, and students.

Because of their unique and impartial relationships with major educational institutions, the regional laboratories can act as catalysts in establishing educational development centers. These laboratories have already developed an intricate and animated network of contacts with individual teachers, professors, administrators, and parents; with schools, county and state agencies, and colleges; with educational associations, government agencies, nonprofit research groups, foundations, publishers, and education-oriented industrial organizations. Yet in all these invaluable interconnections, the laboratories enjoy an autonomous role free, in reality, from the jurisdictional problems and the organizational inertia that often hamper other institutions.

No entirely "new" programs are required. By assisting with reorganization, redirection, and orderly strengthening of present school capabilities, we can find long-run solutions to the problems of the seventies. Let us turn now to some of the major tasks of self-renewal.

BETTER TEACHERS FOR THE SEVENTIES

Incompetent teaching brings about—or worsens—many of our serious social, political, and economic problems. Conversely, skilled teachers—and more of them—can help solve many of these festering educational ills. A single outstanding teacher can provide challenges and inspiration for thousands of youngsters; a single inept teacher can disillusion and frustrate an equal number. How many incompetent teachers can a child with limited opportunities survive?

Teacher-education programs are generally divided into three areas: curriculum, professional knowledge (e.g., educational psychology, measurement, etc.), and classroom skills and behavior patterns. Of these three, the one characteristic that invariably differentiates the successful teacher from the unsuccessful is mastery of the skills and behaviors that bring about learning. Education's critical need in the seventies is to improve the skills essential for effective teaching and classroom management.

Why do we find so few talented teachers in today's schools? Behavioral scientists tell us that much of what an effective teacher does in the classroom can be broken down into specific skills. Though these teaching skills form a more complex pattern than those employed by a surgeon or plumber or auto mechanic, they still must be learned in the same way other skills are learned.

Teacher education programs have failed in the past because they have attempted to develop skills by *telling* the learner what to do. These programs employ mainly lecture and discussion techniques, yet one can no more learn to teach by listening to lectures than he can learn to perform a delicate medical operation or even learn to swing a golf club correctly by listening to lectures. Teacher education programs have also traditionally included observation (i.e., watching a model), but this method has been ineffective in teaching specific skills because the observation has not been focused on the critical skills that were—or were not—occurring. Because the cluster of needed skills and behavior patterns is enormously complex, the observer learns nothing if he is overwhelmed by the vast variety of behaviors he sees while observing. In fact, the typical student-teacher learns an equal amount of undesirable behavior during these observations since many of the models are not themselves superior teachers.

Teacher education programs have tried to provide *practice* (the most critical aspect of learning any skill) through experiences of "student teaching." But again the programs fail because the trainee does not receive effective feedback on his performance. In learning golf, a new player may begin hitting the ball alone on the course—or he may accompany a more able friend who provides occasional suggestions. Since most such suggestions are general, he cannot translate them into improvements in his own performance.

But if a new player goes to an outstanding professional golfer, he will first receive very specific instruction on basic skills and then the pro will demonstrate those few skills. Most of the learner's experience with the pro will involve practicing various shots and receiving immediate specific feedback to improve his skills.

Student-teaching experiences, unfortunately, rarely follow the last example. The supervising teacher provides feedback that is usually general—"You must be warmer" or "You must identify more positively with pupils." Probably the supervisor cannot even analyze his own teaching so as to identify those skills he uses effectively. And it is infinitely simpler to analyze the variables of a golf swing than those that make up an effective teaching performance!

A few truly talented teachers have developed the ability to analyze their own behavior and to profit from trial-and-error experience. Their feedback is generated by what they can infer from pupil outcomes, so learning to teach well has seemed to be a very long and difficult process. Moreover, many trainers of teachers have rationalized their obvious failure in developing capable new teachers by maintaining that teaching is a mysterious and undefinable "art" that occurs only in those with a rare combination of personality, ability, and dedication.

Fortunately, some educators of teachers—with the support of behavioral scientists—see the task ahead as quite specific and manageable. The first step is to identify those teaching skills and behavior patterns that are needed for effective learning regardless of which future path American education may follow. Not all these skills have yet been identified, but many are known—such as the skills related to framing questions that require pupils to think and not merely to regurgitate facts.

The next task is to develop efficient techniques to train teachers to use these skills. Skill-learning indicates these essential elements in such training:

1. Define the skill clearly by describing it to the learner and then show him a model teacher using the skill.
2. Give the learner carefully-directed practice in the specific skills and keep his attention sharply focused on these skills.
3. Provide clear and specific feedback on his performance so he can attain higher levels of competence. (The portable videotape recorder, which permits a learner to watch his own performance immediately after the teaching act, seems the most effective tool so far available for providing feedback.)

After the creation and validation of efficient techniques for learning specific skills, the final step will be to incorporate these techniques into the preservice and inservice training of teachers as widely as possible.

Several courses have been built and thoroughly tested by the Far West Laboratory for Educational Research and Development using just such an instructional model. Not only have these courses effected rather remarkable changes in the classroom behavior of teachers, but hard data exist to prove that once learned, these skills become a permanent part of the teacher's repertoire. Other instructional approaches to teacher education, built upon the same principles, have generally also succeeded in effecting better teaching and better management of human-relations interactions within classrooms.

MANAGEMENT AND COMMUNICATION SYSTEMS

Another major problem confronting education in the seventies is embedded in the "information explosion." Advances in science and technology are already causing revolutionary changes in the amount, the quality, and the impact of available information.

As a high school freshman studies his new general science textbook, he finds much of its content already outdated as contrasted with what he reads in his favorite automotive magazine or ham radio journal, or hears on a television news program. As his teachers contemplate the selection of new texts and new classroom materials, they may find themselves inundated by the latest research reports appearing in hundreds of scientific and technical journals. Their problem, by implication, is only a microcosm of the total information explosion that threatens all educators in the near future.

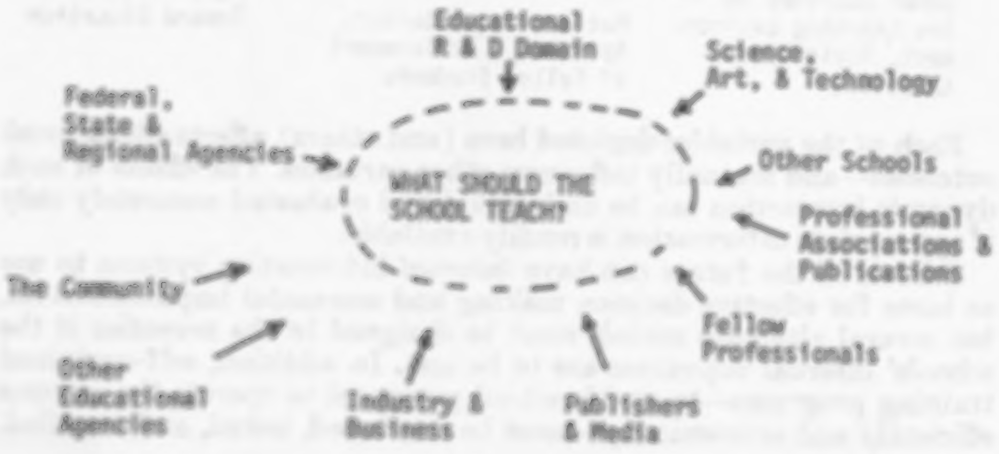
In this era of accelerating social and technological change, planning, programming, and managing education will require new information systems to enable schools to cope with and adjust to change. The "hardware" for self-renewal is already available; the "software" is just over the horizon. If the software is not produced quickly, vital information for decision-making will neither be available as required nor be found in usable forms.

Decisions must be made to resolve: what is to be taught; how learning can best be facilitated; what resources are available; how to evaluate learning; how to allocate scarce resources; which options shall have priority; and a host of other daily, weekly, or monthly dilemmas that now bedevil administrators, teachers, schoolboard members, taxpayers, parents, and students.

Within this problem area, various people must pause to wonder what *kind* of information is prerequisite to sound decisionmaking, where and in what form it can be obtained, and what quantity or quality will be most useful. Developers of information systems must ponder these concerns also, but in addition must predict the intensity and frequency of use, the human, organizational, and technical capabilities of the users, and the sources most likely to generate valid data.

The complexity of the task can be seen graphically in this diagram depicting the information forces that interact in only one aspect of school decisionmaking.

Sources of Curriculum Information

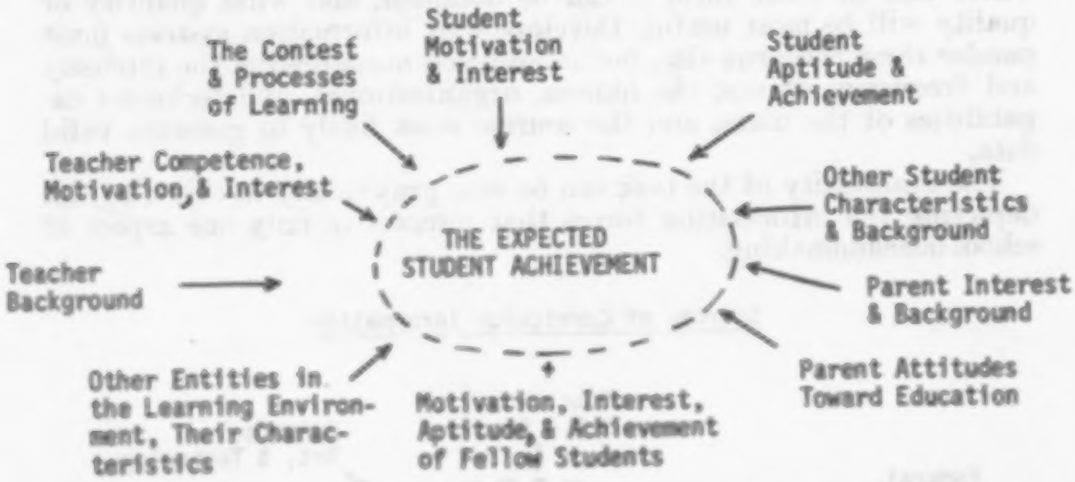

Educational
R & D Domain
Science,
Art, & Technology
Federal,
State &
Regional Agencies
Other Schools
WHAT SHOULD THE
SCHOOL TEACH?
Professional
Associations &
Publications
The Community
Fellow
Professionals
Other
Educational
Agencies
Industry &
Business
Publishers
& Media

This example depicts a critical situation whose information components are *external* to the school itself. All these sources—and others—must be considered in designing an information system that can help the school decisionmaker. One small step in this area is represented by a series of self-contained, mailable, multi-media information analysis kits created by the Far West Laboratory for Educational Research and Development. Each kit amasses, analyzes, and processes—in a manageable format—tested new alternatives within given curricula or instructional boundaries.

Such information-analysis units meet one basic criterion—that schools have all the pertinent *external* information they need to operate successfully in one subject or to solve one operational problem. But, additionally and equally importantly, schools must have the capacity to *use* such information rationally and effectively. Therefore, the next stage of development will require an educational information system that can operate within the school after the school has been successfully linked to external information sources.

Desired educational outcomes *within* a given school are generally measured by student achievement. However, many interacting and interdependent factors impinge on any such single objective, as this diagram indicates:

Sources of Achievement Information


Student
Motivation
& Interest
The Contest
& Processes
of Learning
Student
Aptitude &
Achievement
Teacher Competence,
Motivation, & Interest
Other Student
Characteristics
& Background
THE EXPECTED
STUDENT ACHIEVEMENT
Teacher
Background
Parent Interest
& Background
Other Entities in
the Learning Environment, Their Characteristics
Motivation, Interest,
Aptitude, & Achievement
of Fellow Students
Parent Attitudes
Toward Education

Each of the variables depicted here (and others) affects educational outcomes—and mutually influences other variables. The effects of such dynamic interaction can be understood and evaluated accurately only if appropriate information is readily available.

Schools of the future can have *internal* information systems to use as bases for effective decision making and successful implementation, but several alternate models must be designed in the seventies if the schools' internal objectives are to be met. In addition, self-contained training programs—to enable school personnel to operate the systems efficiently and economically—must be developed, tested, and installed.

EARLY CHILDHOOD EDUCATION

If we consider the current political climate in the nation and the education problems of the late 1960's, we might anticipate that the major thrust of the seventies will be focused on early childhood education—from ages three or four to nine or ten. This focus on early childhood education will be justified because educators and parents alike see this period of growth and development as the most promising point at which to solve long-term educational problems. By the same method of extrapolation, we can expect that the problems most in evidence will require energetic efforts in the slums of our cities and in schools serving the poor or the working class.

The following facts support the shift of emphasis toward early childhood education:

1. Programs such as Head Start have caught the imagination and interest of the nation and have strong political support.
2. Workable model programs have been developed and tested that demonstrate that early childhood programs can be effective and are essential if we expect to help some groups of children succeed in school and life.
3. Parents who cannot send their children to Head Start classes are likely to exert increasing pressure for some kind of preschool experience for their children.
4. Very few local school districts—in the seventies—can meet this pressure by providing three or more hours of classroom instruction. They simply will not have the funds, buildings, or personnel to serve all three- and four-year-old children. Therefore, some alternatives to classroom instruction must be explored and tested.

Research and development work in early childhood education must focus on testing alternatives that, in order to provide a satisfactory "head start" in education, would not require having all children in classrooms by age four. These alternatives must both satisfy public demands and provide worthwhile experiences for the children involved. The research and development activities needed to create and test such model programs and to train teachers and assistants to operate them must be accelerated over the next few years.

The Far West Laboratory for Educational Research and Development has already begun preliminary tests of a model Parent/Child Toy-Lending Library. In this experiment, parents whose three-year-olds do not qualify for Head Start programs are learning how to use toys, games, and puzzles at home to stimulate the cognitive development of their own children. Once trained to use these learning activities, the parents will be able to borrow these and other toys (with printed instructions) as often as they wish—to use with the same child or with younger siblings in the future.

This program is the beginning upon which a more complex system of education for three- and four-year-old children will be built. But it is now intended to stand independantly, as a means of training large numbers of parents so that they can play a positive role in their children's cognitive, affective, and psychomotor growth.

The parent-education course involves 10 weekly two-hour sessions. These are designed to teach parents some basic concepts concerning a child's intellect and self-concept and to instruct them in the use of toys and games (such as color lotto) that are actually "learning activities." Color, size, shape, relational concepts, language skills, problem-solving—all can be learned at home. Most important of all, parents will gain from this series of interactive experiences an understanding of and commitment to their own children's intellectual development.

This program is being designed to serve the greatest number at the least possible cost. If successful with parents of three- to five-year-old children, it can be extended upward to at least age nine (or downward to age one) so that even more parents can become closely and personally involved in their children's education.

MULTI-ETHNIC EDUCATION

Historical and social factors, economic statistics, ideological indicators, and psychological studies all demonstrate convincingly that education today is not meeting the legitimate needs of peoples of difent ethnic groups. Though social unrest may indeed increase during the seventies, the problems of multi-ethnic education are so complex already that many educators, in despair, grasp at any nearby hoped-for panacea in a futile attempt to compensate for past injustice and inadequacy.

But long-range research and development cannot arise from the urgent demands of sit-ins or walk-outs, nor will hastily assembled specialized content materials or untrained personnel provide more than a stopgap to pacify temporarily the genuine concerns of culturally-different parents and teenagers. Groups at the margins of society have in the past been disfranchised, but as they gain political power their needs will become demands that must be translated into realistic educational solutions.

A region such as the Bay Area of Northern California (and the states nearby) is especially suited to a carefully-planned, full-scale research and development program in multi-ethnic education. Though much of the traditional cultural heritage of ethnic minorities is unavailable in written English narratives, people who have verbally passed on this heritage to their children in their native language are readily accessible as a resource for such a program. Further, the community at large in the Bay Area is eager to participate and a multi-ethnic Laboratory staff can be easily assembled—for both development and implementation. Such Laboratory staff members, by their own personal associations and their sensitivity to the feelings of various ethnic groups, can more easily avoid the pitfalls associated with ventures into cultural areas different from their own.

Such a program must proceed with caution, since academic achievement alone cannot be the sole criterion. People of several ethnic groups already see the school as a force which removes their children from their community or else, in preparing youngsters for economic advancement, makes them largely nonfunctional within the community of their original culture. If the schools are to continue their given role as facilitators of cultural transmission, then in a diverse multi-cultural society the schools must orient their curriculum and their staff to reflect multi-cultural educational responsibilities. Community involvement in school-related projects is already a necessity as the seventies begin; by the end of the decade we may expect a much greater proportion of community control.

To identify the most urgent needs, with the most reasonable expectation of directing Laboratory efforts toward their successful resolution, an advisory committee of teachers, students, community workers, administrators, and professional personnel representing ethnic groups in the West has already been formed. This group foresees a program focusing on the problems faced by minority groups as they struggle to cope with changes in their social and natural environments.

Ethnic groups, for example, must constantly resolve problems arising out of a heritage of displacement from their homelands, or out of migration from rural to urban areas, or out of a peripatetic existence as migrant farm workers. Further, in many cases, their African or Oriental or Mexican ancestors, on arriving in this country, left behind their original cultural heritage. And very few schools in the United States are currently able to provide even a modest sample of that valuable inheritance for American-born or American-reared children of different cultural backgrounds.

Therefore, the multi-ethnic education efforts of the Far West Laboratory for Educational Research and Development will probably focus first on helping young people develop the basic skills needed to deal effectively with the problems generated by new and different environments and to maintain their cultural integrity, their identity, their roots. Secondly, this program plans to create and test carefully-planned multi-cultural educational activities for ethnic minority groups—activities that, in the words of one spokesman might "add some zest and some vim and some vigor" to the present bland curriculum. These activities might well have an impact ultimately on the white student also.

The initial thrust will concentrate on preschool and primary-school children and on alienated or near-alienated teenagers. In all these developmental efforts, parents and community resource personnel will be closely and continually involved, with the expectation that this adult participation will produce a positive spin-off in increased self-reliance and self-renewal.

With this beginning, we are addressing ourselves to one of the vital challenges posed by Commissioner of Education, James E. Allen, Jr.—to "change attitudes, to throw off inhibiting tradition and to be willing to experiment and explore new methods and directions."

But if a concentrated effort to facilitate educational self-renewal in these crucial areas should fail, then we must probably abandon all hope that peoples with different values from different cultures and subcultures can learn to live side by side with mutual respect.

SUMMARY

As John Gardner has said, "Education needs more than dollars. It needs to be better than it is—not just somewhat better, but a great deal better. We are not going to succeed in making it that much better, nor succeed in solving the major problems facing us, without substantial innovation. Without such innovation, new billions poured into the system will simply strengthen and confirm outworn practices."

In this brief overview we have neither discussed all the issues nor categorized all the needs of education, Rather we have tried to emphasize those areas in which our own work seems most likely to generate self-renewal in our nation's schools in an effort to help them keep abreast of the demands of a fast-changing society. Other regional laboratories are working on other aspects of educational self-renewal; their means and their mechanisms complement our own efforts.

Investment of a substantial level will be required to support and encourage the educational research and development which promise to produce long-range solutions to many of the social problems we face and will stimulate the vital process of self-renewal in our schools.

SOCIOCULTURAL CONSTRAINTS ON THE EQUALIZATION OF EDUCATIONAL OPPORTUNITY: THE NEED FOR FUNDAMENTAL RESEARCH

Robert E. Herriott, Director, and Benjamin J. Hodgkins, Research Associate, Center for the Study of Education, Institute for Social Research, Florida State University, Tallahassee, Fla.

The general thesis of this paper is that contemporary Federal efforts to increase the degree of equality of educational opportunity within American society are greatly impeded by inadequately understood socio-cultural forces within the State and Local environments which control and administer public schooling. Although the failure of Federal efforts at educational reform can be attributed in part to such common-sense factors as administrative ineptitude or insufficient funding, considerable attention needs to be given to the possibility that socio-cultural forces exist which operate differentially within different State and Local settings either to block or facilitate change. If programs of the Federal government are to actually increase equality of educational opportunity in the 1970's, it will be necessary to understand better both the basis for the differential rejection of past efforts at educational reform and the strategies necessary for overcoming such rejection in the future.

In a sense the problem of educational reform is much like the current state of affairs regarding heart transplantation. Just as the replacement of human hearts currently is impeded by the tendency of the human body to reject physiological reform, the equalization of educational opportunity is greatly impeded by the tendency of the social body to reject educational reform. Although the strategies for overcoming both types of rejection are obviously very complex and are largely unknown, there is currently considerable bio-medical research underway to identify both the source of rejection and various neutralizing mechanisms to assist the heart surgeon. We know of no comparable effort to identify either the nature of the rejection of educational reform or the neutralizing mechanisms which can be used to assist in educational reform.

If the type of massive misuse of Federal funds recently reported with respect to Title I of the Elementary and Secondary Education Act of 1965 (1) is to be avoided in the future, a major program of fundamental social scientific research is needed to identify more carefully socio-cultural constraints upon the structure and functioning of public schooling and to develop more effective strategies for intervention and reform. Clearly current levels of funding under ESEA Title

IV are inadequate to provide for the type of programmatic applied social science research necessary for this task. However, the continued expenditure of extensive Federal aid to local educational agencies without such fundamental research would be as unwise as extensive Federal efforts to transplant human hearts without first learning how to overcome the body's mechanism for rejection.

After introducing the general issue of educational opportunity within American society, this paper considers traditional views of the causes of variation in educationally related behavior, and then introduces varying perceptions of the concept of "equal educational opportunity." With this background a series of contemporary reform practices and proposals is considered in terms of varying assumptions about the source of the educational problem and the most appropriate focus for change. Finally, a program of needed fundamental research is suggested which can clarify the nature of the sociocultural constraints on educational reform and which can identify more appropriate strategies for successful intervention.

The Issue of Educational Opportunity

The general problem of opportunity within American society can be viewed as a problem in the identification, cultivation, certification, and allocation of human talent. Historically, Americans have ascribed great value to the equalitarian view that society must be kept open so that the "native" talents of all individuals can be developed. (2) However, although taking great note of the accomplishments of a few Americans of "humble birth" who have experienced great upward mobility in the occupational world, American society has until recently expressed little systematic concern regarding the many other individuals who have not been upwardly mobile, and have thus been unable to benefit from the general societal progress which has been taking place. Although in the past this variation in upward mobility has often been attributed to variation in innate human "ability" and "motivation," in current dialog it is increasingly being attributed to variation in "educational opportunity." (3)

That there is variation in educational opportunity in America has been inferred from a variety of evidence regarding differences in educationally related behavior. Adolescents from white-collar families attend college more frequently than do those from blue-collar families; (4) Negroes are more frequently excluded from military service because of educational deficiencies than are whites; (5) rural children more frequently attend one-room schools than do those in urban areas; (6) per-pupil expenditures are higher in the suburbs than in the slums; (7) students from low-income families more frequently "drop out" of high school than do those from high-income families. (8) However, the degree to which the American public school can be held responsible for such variation is widely debated. To a large extent this debate has arisen due to conflicting assumptions regarding the causes of such observed differences in educationally related behavior.

Causes of Variation in Educationally Related Behavior

There has long been a concern regarding the extent to which variation in such educationally related behavior as literacy, school and college attendance, ability and achievement test scores, etc., is attributable to innate differences between subgroups of individuals within American society. The question has been posed in many ways: nature versus nurture, heredity versus environment, intelligence versus experience. Although each explanatory approach has always had its particular advocates, one alternative dominated both scientific and lay thought from before 1900 through World War II. (9) According to Hunt:

> This traditional set of answers * * * rested on two beliefs which * * * had the status of basic faiths. One of these may be called the assumption of "fixed intelligence." the other * * * the assumption of "predetermined development." Taken together * * * [they] * * * justified the notion of intelligence as an innate dimension of personal capacity which increases at a fixed rate to the general conception that intellectual capacity and the behaviors taken to indicate it unfold automatically with anatomic maturation, and that anatomic maturation proceeds at a fixed rate so long as the metabolic requirements of the infant and child are met. (10)

The dominance of such assumptions had an inhibiting influence on educational change during the pre-war period, for since individual development was considered to be predetermined, there could be little advantage in reforming the schools to attempt to cultivate it. (11) However, the history of behavioral science since World War II is the record of concerted attacks upon these traditional assumptions. Within psychology the early work of Harlow, (12) Riesen, (13) Hebb, (14) and Piaget (15) was instrumental in documenting the adaptive nature of human development, thus weakening the prewar domination of explanations which emphasized the exclusive role of genetic factors. The later work within social psychology of Bernstein, (16) Hess, (17) and Deutsch (18) has been instrumental in establishing a relationship to educational behavior of preschool familial experiences. More recently, the work of Coleman, (19) Wilson, (20) Herriott, (21) Turner (22) and other sociologists (23) has shown the importance of relationships with school peers upon the educationally-related behavior of adolescents.

Largely through such efforts as these, there are today few advocates for the exclusive role of heredity in the explanation of variation in educational behavior. Therefore, most contemporary proposals for the reform of American public education contain the assumption that the achievement of greater equality of educational opportunity requires a modification of the environment of the child. (24) However, the specification of which environment of the pupil (family, peer group, neighborhood, community) is to be modified often varies according to one's conception of "equality."

Varying Conceptions of "Equal" Educational Opportunity

Proposals for the reform of American public schools not only contain assumptions regarding the causes of differences in educationally-related behavior but also assumptions regarding which of these causes indicates an absence of "equality" of educational opportunity. However, as Lieberman has noted, "Few concepts in the field of education have been the subject of as much confusion as the concept of equality of educational opportunity." (25) Much of this confusion is attributable to conflicting value orientations held by various individuals or groups as to what differences in human and social conditions are morally wrong. In addition, disagreements exist regarding what conditions tend to deny American citizens equal protection of the laws as guaranteed under the Fourteenth Amendment to the Constitution of the United States.

A major aspect of the difficulty in reaching consensus on a definition of "equal" educational opportunity also stems from the fact that the phrase has been given different meanings by different individuals at different points in the history of American education. However, a general shift from a definition that emphasizes the individual's responsibility to avail himself of education to one that emphasizes the society's responsibility to see that he succeeds has been taking place. Trow has identified this shift as one from a "liberal" to a "radical" conception of equality of educational opportunity. (26)

> Under the liberal concept, responsibility for the student's success or failure is placed largely on his own shoulders; although the equality of the school and the teachers is thought to have some bearing on the matter, the primary cause of success or failure in school is seen to be the student's own moral and intellectual resources. Under the radical concept the student's success or, more commonly, failure is seen as the failure of the school or teacher, a failure to create in the child the moral and intellectual resources that lead to academic success. (27)

Although distinctions such as "conservative," "liberal," and "radical" are at best rather arbitrary, it would appear that the conception of equality of educational opportunity referred to by Trow as being "liberal" is better represented by the term "conservative," for the advocates of such a definition emphasize the basic responsibility of the individual for his own well being.

Coleman has identified four alternative conceptions which, although each is present in current dialog, can be viewed in terms of an historical shift from a conservative to a more radical definition of "equal educational opportunity."

> The first stage in the evolution of the concept of equality of educational opportunity was the notion that all children must be exposed to the same curriculum in the same school. A second stage . . . assumed that different children would have different occupational futures and that equality of opportunity required providing different curricula for each type of student . . . The third stage can be seen at least as far back as 1896 when the Supreme Court upheld the southern states' notion of "separate but equal" facilities. [The dominance of this] stage ended in 1954 when the Supreme Court ruled that legal separation by race inherently constitutes inequality of opportunity. (28)

There is today a fifth interpretation of this concept, one apparent in a shift between 1954 and 1965 from the assumption that schools provide equal educational opportunity if they are equal in their *inputs* (e.g., plant, teachers, curriculum, supplies), to an assumption that, to provide equal educational opportunity, schools must be equal in their *outputs* (e.g., pupil knowledge and skill). It was this latter assumption that was made explicit by the U.S. Office of Education in interpreting its 1965 national survey of educational opportunity and by the U.S. Commission on Civil Rights in its examination of racial segregation in schools. (29) However, even among those who adopt the equal output assumption, there is today disagreement regarding the extent to which the society must guarantee equality in output, irrespective of possible inequalities in the "initial condition" of pupils. (30)

Contemporary Reform Practices and Proposals

Within contemporary dialog on the reform of American public education, there are instances of each of the competing conceptions of equality of opportunity noted above. In fact, many disagreements regarding the role of the school in the equalization of educational opportunity can be traced not only to disagreements regarding the causes of inequalities which were noted earlier, but also to disagreements regarding the most appropriate conception of "equality of opportunity" itself.

Some insight into important distinctions among the many contemporary reform practices and proposals can be gained by considering a sample of reforms in terms of what the reformers view to be: (1) the *source of the problem*, and (2) the most appropriate *focus for change*. This has been done in Figure 1 where nine current reform practices or proposals have been classified in terms of these two variables simultaneously with respect to three categories: (1) the *individual*, (2) the *educational system*, and (3) the larger *social order*.

FIGURE 1.—NINE SELECTED PRACTICES AND PROPOSALS FOR THE ACHIEVEMENT OF GREATER EQUALITY OF OPPORTUNITY, BY ASSUMED SOURCE OF THE PROBLEM AND FOCUS FOR THE CHANGE

Source of The Problem	Focus for Change		
	Individual	Educational System	Social Order
Individual	1. Educational Counseling	2. Special Preschools	3. Elimination of Job Discrimination.
Educational	4. Compensatory Education	5. Administrative Decentralization.	6. Free-Market.
Social	7. Improved Social and Political Education.	8. Revision of School District Boundaries.	9. Population Redistribution.

A large number of current reform practices seem to view the source of the problem of inequality in educational opportunity as the inability of many individuals to capitalize on existing opportunities (see Figure 1). However, within such definitions of the problem, the focus for change seems to vary from an emphasis on the individual himself (e.g., proposals for increased emphasis on educational counseling as a way to help individuals to understand better the relationship of their abilities to existing curricular and vocational opportunities), the educational system (e.g., proposals for giving children from "culturally disadvantaged" homes a "headstart" through special preschools), or the social order (e.g., proposals for the elimination of discrimination in hiring, so that individuals can obtain the types of jobs for which they are already qualified).

A second general category of reform practices and proposals seems to reject the assumption that the individual himself is the major source of the problem of inequality of educational opportunity and views it in terms of inadequacies in the educational system. Here, too, the focus for needed changes seems to vary from the individual (e.g., proposals for an increased emphasis on compensatory education designed to enable pupils from "culturally disadvantaged" homes to catch up with their more advantaged peers), the educational system (e.g., plans for the decentralization of the administrative structure of urban school districts), or the social order (e.g., plans to create a "free-market" whereby vouchers provided to parents could be used by them to purchase directly the type of education they desired for their children).

The third general category of reform practices and proposals seems to view the source of the problem of inequality of opportunity as neither the individual himself nor the educational system, but rather the larger social order in which the educational system is located and controlled. Practices and proposals for reform at this level also vary in their focus from the individual (e.g., plans to increase the pupil's awareness of the social and political realities of our society so that he can affect changes in them), the educational system (e.g., plans for rearranging school attendance district boundaries via busing, educational parks, school pairing, consolidation, etc.), or the social order (e.g., proposals for the creation of a more even distribution of social and economic power across school districts via open housing, urban renewal, experimental cities, migration, incentives, etc.).

Needed Research

Although there is a modicum of social science theory and evidence which permits some evaluation of the potential success of most of the practices and proposals for educational reform which see the individual as either the source of the problem or the focus of change (Cells 1, 2, 3, 4, & 7 in Figure 1), there is currently a great paucity of both systematic theory and evidence required for the evaluation of practices and proposals which focus on either the educational system or the larger social order as both the source of the problem and the most appropriate focus for change (Cells 5, 6, 8, & 9 in Figure 1). The recent crisis with respect to the decentralization controversy in New York City gives testimony to the fact that we simply do not have the same degree of understanding of causal relationships at such macroscopic levels as the school, community, and society as we do at the more microscopic level of the individual pupil. Stated more generally, research is greatly needed which can help us to understand better the relationship of the American public school as a social organization to the socio-cultural contexts in which it exists.

There are many aspects of the socio-cultural context which can be considered relevant to the nature of the school as a social organization. For example, particularly in need of systematic research is the influence of what may be called the modernization process upon specific characteristics of the school as a social organization. Although the term "modernization" has generally been equated with social changes in specialization, industrialization, urbanization, or economic development, (31) a full understanding of the term requires going beyond the more observable manifestations of the change process to a consideration of the primary basis upon which societies modernize. Such a basis seems to involve: (A) the introduction of new technology, and (B) the social acceptance of the consequences of that technology in both technological and nontechnological areas of social life. (32)

The introduction of a new technology is often very rapid and can be identified historically as stemming from either innovation or cross-cultural diffusion. The general acceptance of the consequences of that technology, however, is often quite gradual. Lerner has captured the essence of the nontechnological aspects of modernization regarding ". . . the infusion of a rationalist and positivist spirit." (33) In effect, given increasing technological knowledge, there must be an increasing willingness on the part of a significant and influential segment of a society's membership to restructure social life in order to maximize the potential benefits to be derived from that technology. With these "prerequisites" the developmental change has, as noted by Levy, been toward an *ideal modern state of society wherein the structure and organization of social behavior are maximally adapted to the use of the most advanced technological knowledge for the ultimate material benefits to be derived from its efficient utilization.* (34)

Because societies are not homogeneous, they vary in terms of their resiliency to pressures for social change, thereby leading to variation in the degree of modernization within societies. (35) In effect, within a participating society, modernization may be viewed not only as a continuous process but as an uneven one, since it is dependent upon the variable nature of social and cultural characteristics which facilitate or impede changes in that society. (36) Given this assumption, it seems reasonable to assume further that variation with respect to the acceptance and implementation of educational reforms (particularly those introduced by initiative from the Federal level) is related to variation in the degree of modernization of the socio-cultural environments in which schools are organized and administered. No doubt part of our inability to know how to introduce successful educational reforms is due to the fact that we know too little about how schools are linked to their socio-cultural environments. In particular we do not currently know enough about variations in the degree of modernity within American society and how such variation is related to known manifestations of resistance to educational reform.

Also needed are research efforts designed to better understand how the school as a social organization performs within different local environments. Traditional organizational theory is available and can be applied to some of the internal aspects of the school. (37) However, such an approach generally fails to take into account the fact that schools are actively engaged in exchanges with a variety of socio-cultural environments. Elsewhere, we have shown how the school can be viewed as an "open system." (38) There, important variation in the structure, input, and particularly output of 7,000 American public schools was related to the regional, community, and neighborhood context in which they were located. This preliminary research effort strongly confirms our suspicion that the question of inequality of educational opportunity is systematically related to the nature of the school-community relationships. In effect, these findings suggest that significant changes in the structure and functioning of the American public school are greatly dependent on prior changes in the socio-cultural context in which the school exists.

Beyond the need to develop research to systematically identify the manner in which schools as organizations exist in varying local environments, thereby more adequately ascertaining "why" rejection of Federal programs for equality of educational opportunity occurs, is the need to identify mechanisms to "override" local environmental constraints which act upon the school as an open system. It is reasonably apparent, for example, that the pouring of extraordinary money, teacher talent, curricula, etc., into public schools in "depressed areas" is a mechanism which undoubtedly has some useful short-run effects, but this is bound to prove inadequate for the long-term equalization of educational opportunity without the development of mechanisms designed to neutralize the environmental rejection of such a modification.

Before such mechanisms can be developed, of course, we will have to know far more than is suggested above about how the learning experience in the school is affected by the social environments in which it takes place. As we perceive the situation, what is called for are programmatic efforts at fundamental research, combining the talents of anthropologists, economists, sociologists, and political scientists. Although such efforts are authorized under Title IV of the Elementary and Secondary Education Act of 1965, the funding allocated to the research and development center program, for example, has been completely inadequate to permit the implementation of such a research effort. Clearly it seems most unwise to continue to allocate extensive funding of the type provided under Title I of that Act without the appropriation of the R & D funds necessary to identify both: 1) why past efforts at educational reform have been so widely resisted and subverted by the socio-cultural environments in which American public schooling is presently controlled and administered, and 2) how such subversion can be effectively overcome.

It is our hope that the discussions presented above can be helpful in identifying the need for a drastically expanded effort at fundamental research in education, for it is our belief that a major research effort which views the school as an open social system within varying local environment along such dimensions as modernization can be particularly useful in the development of more appropriate strategies for educational reform.

FOOTNOTES

(1) Washington Research Project and NAACP Legal Defense and Educational Fund, Inc., *Title I of ESEA, Is It Helping Poor Children?* (Washington, D.C.: The Authors, December 1969).

(2) See, for example, Robin M. Williams, Jr., *American Society: A Sociological Interpretation,* 2nd edition (New York: Alfred A. Knopf, 1963).

(3) See, for example, James S. Coleman, *et al., Equality of Educational Opportunity,* Vols. 1 & 2 (Washington, D.C.: U.S. Government Printing Office, 1966); U.S. Commission on Civil Rights, *Racial Isolation in the Public Schools,* Vols. 1 & 2 (Washington, D.C.: U.S. Government Printing Office, 1967). For a critical analysis of these works and their implication for the schools, see "Equal Educational Opportunity," a special issue of the *Harvard Educational Review,* 38 (1968), pp. 3–184.

(4) John E. Folger and Charles B. Nam, *Education of the American Population* (Washington, D.C.: U.S. Government Printing Office, 1967), p. 58; W. Lloyd Warner, Robert J. Havighurst, Martin B. Loeb, *Who Shall be Educated? The Challenge of Unequal Opportunities* (New York: Harper and Brothers, 1944).

(5) L. G. Rowntree, K. H. McGill, and T. I. Edwards, "Causes of Rejection and the Incidence of Defects among 18- and 19-year-old Selective Service Registrants," *Journal of the American Medical Association,* 123 (1943), pp. 181–185; Office of the Surgeon General, *Supplement to Health of the Army,* 2 (1966); Byron E. Fulk and Thomas W. Harrell, "Negro-White Army Test Scores and Last School Grade," *Journal of Applied Psychology,* 36 (1952), pp. 34–35.

(6) M. C. Noble, Jr., and Howard A. Dawson, *Handbook on Rural Education: Factual Data on Rural Education, Social and Economic Backgrounds* (Washington, D.C.: National Education Association, 1961).

(7) U.S. Commission on Civil Rights, *op. cit.*

(8) Folger and Nam, *op. cit.;* Patricia Sexton, *Education and Income* (New York: The Viking Press, 1961).

(9) J. M. Hunt, *Intelligence and Experience* New York: The Ronald Press Co., 1961), p. 2.

(10) *Ibid.*

(11) *Ibid.*, p. 5.

(12) H. F. Harlow, "The Formation of Learning Sets," *Psychological Review,* 56 (1949), pp. 51–65.

(13) A. H. Riesen, "Plasticity of Behavior: Psychological Aspects," in *Biological and Biochemical Bases of Behavior,* edited by H. F. Harlow and C. N. Woolsey (Madison, Wisconsin: University of Wisconsin Press, 1958), pp. 425–450.

(14) D. O. Hebb, *The Organization of Behavior* (New York: Wiley, 1949).

(15) J. Piaget, *The Language and Thought of the Child,* translated by Marjorie Warden (New York: Harcourt, Brace and World, 1926); J. Piaget, *The Origins of Intelligence in Children,* translated by Margaret Cook (New York: International University Press, 1952); and J. Piaget, *The Psychology of Intelligence,* translated by M. Piercy and D. E. Berlyne (London: Routledge and Kegan Paul, 1947).

(16) Basil Bernstein, "Social Class and Linguistic Learning," in *Education, Economy and Society,* edited by A. H. Halsey, Jean Floud, and C. A. Anderson (Glencoe, Ill.: The Free Press, 1961), pp. 288–314; and B. Bernstein, "Language and Social Class," *British Journal of Sociology,* 11 (1960), pp. 271–276.

(17) Robert D. Hess and Virginia Shipman, "Early Experience and the Socialization of Cognitive Modes in Children," *Child Development,* 36 (1965), pp. 869–886.

(18) Martin Deutsch, *Minority Group and Class Status as Related to Social and Personality Factors in Scholastic Achievement,* Society for Applied Anthropology, Monograph No. 2 (Ithaca, N.Y.: Cornell University, 1960); Martin Deutsch and B. Brown, "Social Influence in Negro-White Intelligence Differences," *Journal of Social Issues,* 20 (1964), pp. 24–35; and Martin Deutsch, Irvin Katz, and A. R. Jensen, editors, *Social Class, Race, and Psychological Development* (New York: Holt, Rinehart and Winston, 1968).

(19) James S. Coleman, *The Adolescent Society* (Glencoe, Ill.: The Free Press of Glencoe, 1961).

(20) Alan B. Wilson, "Residential Segregation of Social Classes and Aspirations of High School Boys," *American Sociological Review,* 24 (1959), pp. 836–845; Alan B. Wilson, "Social Stratification and Academic Achievement," in *Education in Depressed Areas,* edited by A. H. Passow (New York: Bureau of Publications, Teachers College, Columbia University, 1963), pp. 217–235; and Alan B. Wilson, "Educational Consequences of Segregation in a California Community," Appendix C–3 in U.S. Commission on Civil Rights, *Racial Isolation in The Public Schools:* Volume 2 (Washington, D.C.: U.S. Government Printing Office, 1967), pp. 165–206.

(21) Robert E. Herriott, "Some Social Determinants of Educational Aspirations," *Harvard Educational Review,* 33 (1963), pp. 157–177.

(22) Ralph H. Turner, *The Social Context of Ambition* (San Francisco: Chandler Publishing Company, 1965).

(23) John A. Michael, "High School Climates and Plans for Entering College," *Public Opinion Quarterly,* 20 (1961), pp. 585–595; C. Norman Alexander, Jr. and Ernest Q. Campbell, "Peer Influences on Adolescent Educational Aspirations and Attainment," *American Sociological Review,* 29 (1964), pp. 568–575; and Edward L. McDill, *et al.*, "Institutional Effects on the Academic Behavior of High School Students," *Sociology of Education,* 40 (1967), pp. 181–199.

(24) However, there is still conflict regarding the relative importance which can be attributed to heredity versus environment, as well as to such varying aspects of the child's environment as his family, peer group, neighborhood and community. See, for example, Benjamin S. Bloom, Stability and *Change in Human Characteristics* (New York: John Wiley and Sons, Inc., 1964); Bruce Eckland, "Genetics and Sociology: A Reconsideration," *American Sociological Review,* 32 (1967), pp. 173–194; and Arthur R. Jensen, "How Much Can We Boost IQ and Scholastic Achievement?" *Harvard Educational Review* 39 (1969), pp. 1–123.

(25) Myron Lieberman, "Equality of Educational Opportunity," *Harvard Educational Review,* 29 (1959), p. 167. For a more recent analysis of the concept, see B. Paul Komiser and Jerrold R. Coombs, "The Concept of Equality in Education," *Studies in Philosophy and Education,* 3 (1964), pp. 233–44; C. J. B. MacMillan, "Equality and Sameness," *Ibid.*, pp. 320–32; Philip H. Phenix, "Equality as Uniqueness," *Ibid.*, pp. 332–335; B. Paul Komiser and Jerrold R. Coombs, "Too Much Equality," *Ibid.*, 4 (1965), pp. 263–71; Aharon R. Kleinberger, "Reflections on Equality in Education," *Ibid.*, 5 (1966), pp. 293–390; John R. Perry, "Equality and Education: Remarks on Kleinberger," *Ibid.*, pp. 432–45.

(26) Martin Trow, "Two Problems in American Public Education," in *The Sociology of Education: A Sourcebook,* Revised Edition, edited by Robert R. Bell and Holger R. Stub (Homewood, Ill.: The Dorsey Press, 1968), p. 15.

(27) *Ibid.*

(28) James S. Coleman, "The Concept of Equality of Educational Opportunity," *Harvard Educational Review,* 38 (1968), p. 14.

(29) James S. Coleman, *et al., Equality of Educational Opportunity, op. cit.;* U.S. Civil Rights Commission, *op. cit.*

(30) William O. Stanley, *et al., Social Foundations of Education* (New York: Henry Holt and Co., Inc., 1956), pp. 240–41; Lieberman, *op. cit.,* pp. 176–177; James S. Coleman, "Equal Schools or Equal Students," *The Public Interest* (Summer, 1966), pp. 70–75; Samuel Bowles, "Toward Equality of Educational Opportunity?" *Harvard Educational Review,* 38 (1968), pp. 89–99.

(31) These terms are frequently used interchangeably with the term modernization and usually reflect the author's predilection for one of the four emphases as being most important in distinguishing amounts or types of social change. For interesting variations which reflect this divergent emphasis, see Marion J. Levy, Jr., *Modernization and the Structure of Societies,* Volume I (Princeton, N.J.: Princeton University Press, 1966); Reinhard Bendix, "Industrialization, Ideologies, and Social Structure," *American Sociological Review,* 24 (1959), pp. 613–623; George A. Theodorson, "Acceptance of Industrialization and its Attendant Consequences for the Social Patterns of Non-Western Societies," *American Sociological Review,* 18 (1953), pp. 477–484; Neil J. Smelser, "Toward a Theory of Modernization," in Amitai and Eve Etzioni (eds.), *Social Change* (New York: Basic Books, Inc., 1964), pp. 258–274; Wilbert E. Moore, "Industrialization and Social Change,"

in Bert F. Hoselitz and Wilbert E. Moore (eds.), *Industrialization and Society* (New York: UNESCO, 1963), pp. 299–372; Philip M. Hauser and Leo F. Schnore (eds.), *The Study of Urbanization* (New York: John Wiley and Sons, Inc., 1965); Manning Nash, "Social Prerequisites to Economic Growth in Latin America and Southeast Asia," *Economic Development and Cultural Change,* 12 (1964), pp. 225–242; or Philip M. Hauser, "The Social, Economic, and Technological Problems of Rapid Urbanization," in Hoselitz and Moore, *op. cit.,* pp. 199–217.

(32) This is not to suggest that other factors, such as nationalism, may not have contributed to modernization, but rather to note that without technology and the acceptance of its consequences, modernization as we know it today simply could not have occurred. Technology and its acceptance, then, are viewed here as necessary (but probably not sufficient) conditions for modernization, and therefore, can be considered as the primary basis for its occurrence. See Levy, *op. cit.,* and Daniel Lerner, *The Passing of Traditional Society: Modernizing the Middle East* (Glencoe, Ill.: The Free Press, 1958).

(33) *Ibid.,* p. 45.

(34) Levy, *op. cit.* In large measure, the view of modernity as an ideal and, accordingly, the process of modernization as a continuum, is discussed by several authors. Levy and Nash relate it most closely to technology, however. For a different view of the relativity of modernization and its meaning for measurement, see Norton Ginsburg, *Atlas of Economic Development* (Chicago: University of Chicago Press, Department of Geography Research, Paper No. 68, 1961), pp. 1–5.

(35) The idea that variation in modernization occurs cross-culturally is readily accepted—even variation among the more developed countries. Variation of modernization *within* one society, however, is a much less commonly accepted idea. Yet, its tenability has been argued by several authorities in the area. See Bert Hoselitz, "Main Concepts in the Analysis of the Social Implication of Technical Change," in Hoselitz and Moore, *op. cit.,* pp. 11–31; Lerner, *op cit.*; Levy, *op cit.*

(36) Exemplary of the continuous and uneven process of modernization in contemporary American society is the differential development of some aspects of urban life leading to "problems" for city administrators. Thus, archaic political and administrative procedures create a great impediment to the resolution of welfare problems brought about by the rapid urbanization of the American population. See, for example, Philip M. Hauser, "Urbanization: An Overview," in Hauser and Schnore, *op. cit.,* pp. 26–31.

(37) See, for example, Charles E. Bidwell, "The School as a Formal Organization," in *Handbook of Organizations,* edited by James G. March (Chicago: Rand McNally, 1965), pp. 972–1022.

(38) Robert E. Herriott and Benjamin J. Hodgkins, *Sociocultural Context and the American School: An Open-systems Analysis of Educational Opportunity,* Final Report, Grant No. OEG–2–6–062972–2095 (Washington, D.C.: U.S. Department of Health, Education and Welfare, January 1969).

REDIRECTION IN EDUCATION

Robert R. Hind, President, Education Development Center, Newton, Mass.

Redirection in Education

As we close the decade of the 1960's, it is natural that we educators ask ourselves: How will the decade of the 1970's be different? Will it be better than the troubled 1960's? Will education continue to move at a rapid pace, since the decade in which man first reached the moon was fast-moving in our field, as well.

We need not belabor the familiar history created when the so-called "new learning" was introduced in 1960 by the Physical Science Study Committee. Under the leadership of the renowned scholar, Jerrold Zacharias of the Massachusetts Institute of Technology, the Committee developed the "new physics." Rapidly thereafter, from all directions of the country, came the "new math," the "new chemistry," the "new biology," the "new English," and, more recently, the "new social studies."

Paralleling these developments in curriculum was the spread of educational technology—language laboratories, educational television, video-taping, computerized instruction, and the like. Much of the change was buttressed by the first comprehensive program of Federal aid to education—the Elementary and Secondary Education Act of 1965—and companion bills to finance construction and other programs in higher education.

The sixties were also the decade of creeping desegregation in schools North and South—desegregation that was often outpaced by resegregation—and a greatly heightened militancy among the three major constituencies involved in the schools: students, parents, and teachers. Students began to clamor for relevance in their curriculum when they were not shouting against being simply untaught; parents sought a greater voice in policy decisions that would bring about changes desired by both students and themselves; and teachers sought a mechanism, which became trade unionism, first to gather for themselves more power and money and, recently, to protect themselves against students and parents who made the futures of education professionals uncomfortable, if not uncertain.

Underneath the ferment of the sixties the fear spread that whatever progress took place was merely middle-class-deep. The new staff of educational life—that is, the new physics and the other outcroppings of new learning, the language laboratories and the like—was being concentrated in the already successful schools and successful students already well-insulated against failure in society.

Recent charges have even been made that ESEA Title I funds, designed to improve the lot of the poor schools, have been diverted to rich communities and provide services and salary money without any special concern for the poor. These charges are now being investigated by the U.S. Office of Education.

For the poor, underserved by school and society, the most prevalent form of feeding is the crumbs that have come to be known—and disowned—as compensatory education. Designed to raise the academic achievement of pupils, this "black fixing," as Yale psychologist William Kessen labeled it recently, has produced such programs as the Great Cities School Improvement Programs, Title I of ESEA, New York City's Higher Horizons Program, and the American Federation of Teachers' "More Effective Schools" program. Proponents of the compensatory approach believe that many minorities and other underprivileged people are inadequately socialized, do not have sufficient male figures in their lives, have no books in their homes, cannot delay gratification, and suffer from accumulated environmental and cultural deficits. So they provide strengthened doses of prescriptions that have been ineffective before—more remedial reading, more trips to zoos, more psychological services. This "band-aid" approach assumes that the schools need to do more for disadvantaged pupils, but does not presume that the school itself is in need of re-examination.

Critics of this thinking, like Dr. Arthur Pearl of the University of Oregon, say this leads teachers to believe that their primary role in working with the underprivileged is to "repair" them, to fix them, if you will, and deal with their handicaps. The premise is that poor children are out of step and need reshaping. Programs are generated, Dr. Pearl says, that reinforce the inequality of education and the humiliation of the children.

What is worse, the indicators tell us that such programs do not work. In New York City, for example, research by the Center for Urban Education showed that the More Effective Schools program—in which doubled teaching staffs offered a doubled dose of the same old goods and services—produced no consequential improvement in educational achievement at 21 schools in which it was tried, and is still being tried.

More recently, it was revealed that Head Start, which in many of its manifestations is an example of traditional compensatory education, had "not provided widespread significant cognitive and affective gains which are supported, reinforced, or maintained in conventional education programs in the primary grades." Apart from showing no significant gains over control groups of peers, these Head Start children fell consistently below the national norms in standardized tests of cognitive achievement. By the time they had reached the third grade, the children were about a full year below the average national level.

Compensatory education is viewed with increasing distrust by the parents of academic failures because the techniques are not achieving their goals and because parents are rejecting the premise that the fault lies with their children. As presently constituted it has proved to be a failure, and needs to be replaced by a more comprehensive educational approach.

I agree with those such as Pearl, who argues that "instead of trying to save people, salvage people, and help people, we should be offering disadvantaged youths the opportunities to belong, to help, and to salvage themselves and others. Rather than developing programs which emphasize failure, inadequacy, and thus continue to stigmatize and spoil the image of youth, we should focus on the structural barriers standing in the way of their success."

We should start assuming that all children want to learn unless, for some reason, they become unmotivated. The teachers' responsibility is to teach, but instead they frequently engage in self-fulfilling prophecies that certain people cannot be educated. They decline to educate them and then pride themselves, as Dr. Pearl says, on their exceedingly accurate predictive index. Thus, Martin Deutsch and others have discovered that the eagerness with which children of the poor first start their schooling declines with each additional year of exposure to the schools. The schools thereby become part of the problem rather than part of the solution. The alleged dysfunctionality of the disadvantaged youth is a result of being locked out of society. Lack of motivation and apathy are the consequences of denial of opportunity.

But while the evidence mounts that what has been tried will not work, the question remains: "What will work to build in a future for all our children?"

On the basis of the Education Development Center's recent experience, we believe the answer lies in the direction of a total-system approach to educational problems. This belief rests most particularly on the experience of EDC's Pilot Communities Program. This had been developed to its fullest extent in the subsystem known as the Model School Division in Washington, D.C., a semiautonomous grouping of thirteen elementary schools, four junior high schools, and one high school in the city's Cardozo district.

There, beginning in 1964 as a small research project of EDC's Elementary Science Study, an Innovation Team of teachers has matured to the point where it has achieved considerable progress in the schools in which it has worked directly. Furthermore, it has begun training hundreds of other teachers to devise means of coping with the complex problems inhibiting educational change. In Washington as well as in Boston and other New England communities, the Pilot Communities Program has reached out, not with isolated curricular innovations—the approach that had characterized the many-splintered marvel that ESI had been—but with a total teaching approach to the total school environment.

As the original Pilot Communicaties statement proposed, operations teams, like the Innovation Team, have sought to focus existing resources "to see whether a planned and tightly coordinated effort to rationalize the flow of resources might make possible a significant increase in the quality of education."

The just-published statement in our basic program plan for the Pilot Communities project looks to distilling from the development of change agents "a theory concerning the role and functioning of these agents that hopefully can be translated into specific training procedures which schools could use to develop staff who could enter schools and work with total school problems."

Development of such a theory should make it possible to demonstrate to schools the need for basic organizational changes including administrative, logistic, and other support activities in education; it should also provide ideas in teacher training to bring about "people change." These are required to create a stimulating learning environment, open to innovative practices, and constantly developing improved approaches to the content and the processes of education.

The Ford Foundation's Mario Fantini noted in an article in the *Harvard Educational Review* last winter that the model subsystems, such as the Model School Division, represent "a refreshing intellectual concession that the educational process and system may share responsibility with the learner for his failure to achieve." As he also notes, the mother system of a model system is frequently unwilling to give her precocious, adventurous children much latitude. Despite itself being in disarray due to years or decades of decline, the mother school system may be impatient to evaluate its offspring. Vested interests are only too ready to label it a failure if it does not turn out a record of extraordinary achievement in a year or two.

The fact is that the model subsystem with which EDC has had the longest and fullest experience—in Washington—has been anything but a failure, even in merely an academic way. Tests administered there in 1968–69 showed that ten of the thirteen elementary schools in the Model School Division were above the median score for the city's sixth-grade classes. Two years earlier only six of the fourth-grade classes were above the city-wide median level. Yet the distance which remains to be traveled is indicated by the fact that eleven of the thirteen schools were still below national norms. Such facts alone would spur us in the conviction that a more wholesale approach to change is necessary.

Mr. Fantini was right to suggest that subsystem models of excellence must swim against the tide of the status quo system. The total-system approach, which is one we favor, has no such constraint. As Mr. Fantini says: "There is no boring from within, for everyone starts at the reform gate at the same time. In a federation of autonomous subsystems such as the Passow Report suggested for Washington, each with an equitable share of resources, instructional practices would operate in an open, competitive market. The most successful models would be on display as a challenge to other school systems to adopt their approaches or surpass them in performance."

Like Mr. Fantini, I believe that the ally of the professional educator in the creation of the newer systems should be the parents and the community at large. Too often now the parents—especially those whose own level of education is limited by the pathological syndrome of life as it exists in poverty areas—have been stifled in their efforts to achieve the reforms that will insure a fuller education for their children. In the systems of the future, they must become full partners of the professionals, with a choice among educationally sound alternatives drawn up by professionals. They must have a voice in the selection of materials and personnel and allocation of resources.

In summary, we must begin to devote our primary attention to the educational problems of the poor—that neglected segment of the population that is destined to seal itself off from the good life if we are unable to break the recurring cycle of poverty, disillusionment, lack of motivation and encouragement, dropping-out, and consequently, poverty—and a repetition of the cycle in future generations.

To break the cycle, we need to continue the search for new solutions and to extend the models that work. Instead of pouring Federal funds—which are the only hope for a breakout from the repetitive cycle of poverty and poor education—into the myriad ratholes of inadequate educational systems, we should concentrate on seeking new solutions.

Unlike any other important segment of our productive society, education has only trivial sums to expend on research, development, and dissemination. In industry, it is commonplace to spend 10 per cent of income on R&D. The military invests billions in the same way. And we are capable and willing to invest huge sums in a space program that has no visible result beyond collective ego satisfaction. Yet virtually nothing is spent by the basic producers in education—the local school systems—on advancement of the art. Local budgets are stretched thin just keeping the schools open. Only the Federal budget is capable of remedying this situation. Yet expenditures for research, development, and dissemination are actually shrinking at this time of greatest need.

I would urge that, in the decade of the 1970's, vastly increased Federal funds be appropriated and budgeted to:

1. Develop innovative practices in education in the areas of curricula that are meaningful to today's culturally different children, training of school personnel, organization and logistic support of school systems, and applications of technology intended to support rather than replace the teacher.
2. Test and evaluate these innovative practices.
3. Disseminate through subsidy of publication and training programs those programs that prove effective.

Only by increasing the sole source of support for educational change—Federal funds—will we be able to bring about significant improvement in education. Only thus can education contribute to a reduction in the growing numbers of poor people who have lost hope, whose resentment threatens our society, whose presence is the shame of our nation. This must be our national educational goal for the 70's.

AN EVALUATION OF ELEMENTARY AND SECONDARY EDUCATION AND SOME POSSIBLE DIRECTIONS FOR CHANGE*

John L. Holland, Director; James McPartland, Assistant Director; and Edward L. McDill, Former Director, Center for the Study of Social Organization of Schools and the Learning Process, The Johns Hopkins University, Baltimore, Md.

This paper offers an incomplete evaluation of the state of elementary and secondary education today. Our aim is to outline only the major strengths and weaknesses of our current effort. Likewise, we will indicate only a few of the possible, but most promising, paths for revitalizing education. In short, this brief account summarizes our best judgment of where we are and what revisions of our current efforts appear most desirable.

I. Current Status

Some characterization of the current state of education appears useful before we begin to outline some constructive directions that education, legislation, and research might take. On the positive side, there are some promising signs that the health of American education is improving.

(1) Never has there been so much national interest in education from so many parts of American society—students, parents, educators, entrepreneurs, legislators, and government officials. Like any other national problem, such support is needed and welcome.

(2) Educational legislation, such as Title I, has infused our schools with money earmarked for planned changes in schools, even though the programs to date have not had clear outcomes.

(3) We have more educational technology—so much of it that special journals exist to inform the uninitiated. At this time, schools and colleges are embracing computer-assisted instruction, individually-prescribed instruction, academic games, and similar methods with great enthusiasm.

(4) A large corps of researchers from education, psychology, and the social sciences has been attracted to educational problems. The American Educational Research Association, for example, has almost trebled its membership in the last decade. And, along with this influx of diverse talent, have come more interest and concern for the theoretical underpinnings of education.

(5) Preliminary efforts are underway to develop methods for taking stock of the national educational welfare. The programs of "national assessment" and "social accounting" promise to give for the first time a baseline from which future trends can be gauged.

To summarize, there are many promising signs that even a cursory review of education today will reveal. But if we begin to ask what impact these things have had—questions such as "What do we know now that we didn't know before?", or "Is this new technology better than the old-fashioned way?"—the typical answer is, "We need more time to find out." This is not a cynical reaction; it really seems too early to expect that the recent funding of education has had a pervasive and sizeable impact.

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Turning to the negative side, our current educational activities, legislation, research, and educational institutions contain many persistent weaknesses:

(1) Schools, Federal programs, researchers, and others have neglected the systematic evaluation of our current efforts. Consequently, too little is being learned about either old, traditional programs or new, experimental programs. New programs are laid upon old ones before we learn what merit the old one had. Some Federal programs even appear quietly but actively hostile to any evaluation and persist in the production of misleading public statements. Needless to say, we can neither educate nor play darts in the dark. The systematic evaluation of educational techniques, teacher behavior, schools, and school systems remains a major educational need (McDill, McDill, Sprehe, 1969).

(2) Theories of education are rare, recent, and weak. Aside from the writings of philosophers, theories of education have typically been fragile speculations which appear ludicrous in contrast to the substantial and complex character of education. Put another way, educational researchers have a kit of theoretical tools and ideas that are no match for the problems of educating the typical child, let alone the disadvantaged child.

(3) Perhaps the most stubborn educational fact is the past inability of schools to influence students in substantial or dramatic ways. If there is a clear, repeated finding about schools, it is that variations in their quality have at best modest effect on various measures of educational outcome (Coleman, 1969; McDill, Rigsby, Myers, 1969). Although education is thought of as the last American frontier, whether or not education has actually redistributed people to higher economic levels remains dubious (*Toward a Social Report*, 1969).

(4) The recruitment, retention, development, and evaluation of teachers remain a series of unsolved problems. Teachers who cannot teach and teachers who create destructive climates are still abundant. Although it appears reasonable to pay artists, musicians, physicians, and mechanics according to some crude evaluation which is often performed by a single, biased person, merit systems for teachers are still regarded as dangerous possibilities (Coleman, 1968). Teachers, as well as schools, have for too long a time been allowed to exempt themselves from their responsibility in educational outcomes.

(5) Schools reward and satisfy primarily students with "*academic*" talents; however, it is clear that society also needs people with many other talents—scientific, interpersonal, entrepreneurial, and artistic. It is especially disturbing to find schools persisting in this restricted kind of rewarding in view of recent work relevant to this issue. It is clear now that academic talent is largely unrelated to many other talents (Taylor and Barron, 1963; Hoyt, 1966; Holland, 1966; Richards, Holland, and Lutz, 1967). Consequently, the nourishing of only academic talent does not automatically take care of the diverse needs of children or of society's need for people with diverse talents.

(6) Substantial proportions of students at all levels of education are alienated from their institutions. Typically, we now attribute such

student feelings to the current socio-political climate, but it is also plausible to attribute student unrest and alienation to more direct, explicit school processes and situations, such as tired teaching, rewards for a single kind of talent and interest, passive participation, and similar experiences.

(7) Finally, educators and researchers have acted as if funding alone would solve educational problems. Such attitudes are a natural outcome of years of meager funding, but a modest increase in funds has also made it clear that there are not enough talented practitioners and researchers presently in education to make constructive and imaginative use of any massive and sudden increase in Federal funding.

This cursory and elliptical review strongly suggests that radical revisions of our current activities and planning are required to produce substantial and constructive educational changes. The next section specifies some possible changes in educational practice and research which appear especially promising from our vantage point.

II. WHAT'S NEEDED

If education is going to make steps significant enough to cope with the educational needs of elementary and secondary students, several major shifts and developments appear especially promising.

(1) The Promotion of Diverse Student Talents. A comprehensive effort to foster the diverse talents, competencies, and learnings that society needs requires an explicit implementation. Such a revision should both reduce student alienation and foster societal goals. The development of academic ability is important, but no more important than the development of talents such as those mentioned before—entrepreneurial, interpersonal, scientific, and artistic. Some current research and development activities are concerned with this reorientation, but there is no massive effort in that direction. Perhaps vocational education in two-year colleges represents the largest and most successful effort to promote nonacademic talents. At the same time, vocational education in secondary schools is stigmatized as being only for nontalented students. Torrance's work at the elementary school level on originality represents another facet of training for diverse talents (Torrance, 1963). He works with both students and teachers in an effort to create an atmosphere within an educational setting in which creativity is promoted. What is needed is a comprehensive, direct effort in this area of fostering diverse talents in order to revise what little we are doing and to plan what might be done.

(2) Tailoring Research to Educational Needs. Research activities need to be more closely related to current educational problems such as the need for more evaluation, better theory, more opportunities for research in school settings, and for manipulating school organization and environment.

a. We need a more comprehensive evaluation of schools, school systems, and special educational programs. Only in this way can the best of the traditional way be preserved and integrated with the best of the new teaching.

b. We need more opportunities for the tryout of innovative research and administrative ideas in school settings. For example, one simple approach would be to encourage all school systems to free a few schools to operate more independently of their systems. In this way, a few imaginative educators would at least have the opportunity to create better schools. Systems, like committees, rarely produce creative outcomes. Such unconstrained schools would also provide hope for classroom teachers with more innovative ideas. Likewise, these independent schools might stimulate their entire system. Put another way, the systematic development of less traditional schools would be an inexpensive way to foster better schools and attract teachers with original ideas. The typical school cannot hope to attract and retain outstanding people without first undergoing some such fundamental changes.

c. We need to encourage speculation and theorizing about the educational process. The current investment in this kind of activity seems minimal, but one good idea, like one good theory, can have widespread effects. The designation and support of a few career investigators who want to use their careers to cope with theoretical tasks might have an enormous payoff, even if only one such investigator turned out to have good ideas. Further, our educational technology needs a stronger research foundation. Some educational developments are riding more on air than substantive research and theory.

d. We need to explore the impact on students of changing the structure of schools. The standard structure and organization of American schools are so pervasive that one falls prey to the idea that there are no other ways of running a school. For example, almost all schools grade students relative only to the others in their class, structure academic competition only between individual students, delegate students to a passive and powerless role in the governance of the school and in the direction of instruction, and use some system of assigning students to classes on the basis of their past performance. In fact, possibilities for the change are present in these very examples as well as in other structural properties of schools. Changes of a structural nature are probably easier and quicker to bring about than direct changes in teaching personnel; yet these kinds of revisions of the learning environment would be beneficial to all the children in the school rather than just a few.

As an example, grading students constantly in terms of their standing in their own class rarely gives a large number of them any feeling of satisfaction that they are progressing in their mastery of subjects, when, in fact, some growth is usually being made by all. The use of other schemes (evaluating students with regard to their own starting point, their rate of growth, or in comparison to different reference groups) might change this. In addition, the use of concrete reinforcements other than grades could change the low ratio of rewards to punishments now used to motivate students.

Other countries have structured the competition quite differently from what exists in American schools. Russia, in particular, uses group incentives of various sorts to encourage cooperation and mutual help between students in approaching learning tasks. Incentives for cooperation between individuals with the competition being between groups may change the direction of social pressure regarding academic pursuits, as well as give valuable learning experiences to students both when they are serving as helpers and when they are being helped themselves. Yet, there are few examples of such restructuring in the public schools of this country.

Other ways of creating situations where students play a more active role in the governance of their school and learning environment may have an important impact on their personal and academic development, as well as on the satisfaction they derive from school. Research has suggested that the degree to which a person feels control over his immediate environment will often influence his receptivity to learning situations as well as the degree of alienation he may experience (Seeman, 1962). Elementary and secondary schools do not seem to offer real opportunities or requirements where students might influence important features of their school experience. Experiments with decisionmaking procedures and methods of curriculum assignments should be made to devise a system where students might progressively become more comfortable and competent at handling responsibility.

III. LEGISLATIVE DIRECTIONS

The funding and direction of current educational programs require a more comprehensive and careful evaluation. Without a more systematic evaluation of the existing programs, we are lacking the knowledge to develop new programs or revise old ones. Although it is ambiguous just how such evaluations should proceed, the need is great. Put another way, schools need more research and development support of *high quality*. A concerted attempt must be made to learn what schools need, how the necessary research and development might be accomplished, and what the current research and development are doing. Specifically, we need a more comprehensive evaluation of schools and of the various governmental attempts to help them. Again, a good idea is more important than money.

Relative to the size of the national educational problem, the current research and development activity is paltry. The magnitude and the importance of the problems call for more support and in more imaginative directions. Current funding plans are reminiscent of a stingy, overbearing relative. For example, research and development centers cannot attract and keep the best people if funding continues to be relatively inflexible, short term, and small. The funding of a small cadre of career investigators to create educational theories is needed if we hope to integrate the whole educational enterprise. More adventurous attempts to develop a systematic and comprehensive theory of education are overdue. Most attempts have been timid and limited in scope. You cannot build an airplane by working forever on subassembly problems alone. People must be encouraged and recruited to begin the design of educational systems of whole schools and the whole educational process.

The natural opportunities within school systems have rarely been exploited because school systems have typically attracted a pedestrian brand of researcher. School systems need some independent evaluators and researchers free to capitalize on the enormous research opportunities within schools without worrying about their jobs. Likewise, we should examine the origin of unfunded good ideas and how they can be made to happen more frequently. For example, why does education need so much outside support to do the main job? The distribution of grants and contracts should be restudied for its effects on education. New Federal legislation might consider the possibility of starting new research and development centers within school systems or of strengthening existing research teams already within systems to capitalize on the economical data collection possibilities. Until educational systems contain a larger proportion of talented people, and until these systems provide congenial environments for good educational researchers, schools will continue to rely on a more expensive extramural research and development.

To summarize, the evaluation of current funding and the proposal of remedial legislation demand as much scientific study, originality, and wisdom as we attempt to muster for any other research problem. The frantic techniques of the Office of Education and Congress should be immediately supplemented with a systematic, long-term assessment of the effects of educational legislation.

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EDUCATIONAL TECHNOLOGY FOR THE SEVENTIES*

Wayne H. Holtzman, Dean, College of Education, and Professor of Psychology and Education, the University of Texas, Austin, Tex.

National concern for the improvement of education at all levels has grown rapidly in recent years. The current emphasis upon quality in education began in the post-Sputnik period when we were shocked

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into the realization that all was not well. The idea of universal education of high quality for every individual student is a dream that few of us wish to set aside—a dream that paradoxically seems more remote at the same time great progress is being made in the development of new technology to make it possible. Before examining this technology in detail, it may be helpful to review briefly some of the major problems facing us today that call out desperately for the national planning of education.

How should the school be organized and controlled socially? At the two extremes we have the little red school house and the huge educational park. On the one hand, parents want to have a neighborhood school to which their children can walk, a school where a lot of community-centered activity can take place. On the other hand, they want their children to have the best possible education, including specialized facilities which may require centralization in one large educational complex. In our larger cities, the struggle often takes the form of a central board of education versus decentralized community or district control.

Can we train enough teachers to man our classrooms while also raising the quality of instruction? Currently, there are 2 million teachers in our public schools and the number is increasing at a rate of only 3 percent per year. Because of low salaries, high turnover, and poor working conditions, it is estimated that 1 million new teachers will be needed every five years to replace those who leave the field as well as increasing the number in our schools. Another million teachers will have gone through traditional teacher education programs in the next five years before new technology can be implemented on a broad enough scale to change the picture to any significant degree. Teaching tends to be a female-dominated profession, especially at the elementary level.

How can we renew our rapidly deteriorating physical plants characteristic of school systems especially in urban communities? Because of major population changes in our large cities, especially the flight to the suburbs, inner-city schools have been rapidly transformed into fortress schools surrounded by ghettos. It is difficult enough in most cities just to maintain the status quo in our schools rather than to consider building the schools of tomorrow which will take advantage of new technology.

Can the acute financial crisis spreading within education at all levels be met with existing patterns of support? While the property tax assessment for raising funds in the wealthy suburb works very well, it is utterly inadequate for our major metropolitan areas. State foundation programs are being called upon increasingly to carry a larger share of public education at all levels, and recently, the Federal government has been under severe pressure to support education.

When should children enter school and can we do anything about the poor environment of preschool children in many families? Although psychologists, educators, and other child development specialists have been calling for intensive early stimulation from infancy through kindergarten, only recently has national attention focused on the plight of the disadvantaged preschool child. Until very recently, children from millions of families across the United States came to school on the opening day of the first grade or kindergarten without ever having held a pencil in their hands. Fortunately, the Headstart program and day care centers growing rapidly across the country are helping to alleviate this situation.

How can we reduce the number of school dropouts? Currently, one out of every eight school-age children is not in school. The hardest hit are children from families of migratory workers and the children of Negroes. In both cases the child is often looked upon as another hand to contribute to the welfare of the family by working rather than staying in school. Fortunately, such programs as Upward Bound are demonstrating dramatically that basic skills and motivation can be markedly improved among teenagers who are potential dropouts. In one South Texas program involving intensive training during the summer, periodic contacts during the year, and again intensive training the second summer, nearly all participants stayed in school and many have even gone on to junior college. It is obvious that with sufficient resources properly applied we can reduce the number of school dropouts dramatically. But note that successful solution of this problem aggravates others by producing more students who go on into the upper grades of high school and college.

Is our curriculum really outmoded and can it be improved dramatically by major revision? Curriculum experts as well as laymen get heavily involved in the controversy over what should be taught, at what age, and by what techniques. Recent research has demonstrated that some children as young as four years of age can be taught to read and write. First-grade children can learn some of the basic concepts of economics and algebra. It has been said by some educational leaders that any subject of major importance can be taught in one form or another to children or adults of any age. One thing is certain. We must have an increase in major national and regional programs for developing curricula. The programs in mathematics, biology, and physical science have been highly successful in general, particularly when one compares them with the hand-tooled nature of many local efforts. For too long, the classroom teacher has been expected to serve as an expert in all areas, an assumption that leads to very uneven results. What is needed is a spirit of inquiry and research to join together the subject matter experts, the curriculum specialists, and the educational technologists. Improving the curriculum is a continual process that never ends.

Can we really take into account individual differences across children and develop programs that truly realize the potentialities of each individual? This last issue of national concern is the most important and most difficult of all to achieve. While there is much lip service paid to it, it is impossible at the present time to show genuine recognition of individual differences in the current classroom. Typically, a class consists of one general teacher with 30 students, all of whom are working at about the same pace in a self-contained classroom. The same instructional sequence is given for every child. Here is where new technology is desperately needed and where some real promise of providing major answers to the question of quality education for everyone may lie.

The Importance of Individualized Instruction and Computers

Central to the realization of quality education on a universal basis is the development of individualized instruction which takes into account the great human diversity in cultural background, styles of life, values, goals, motivation, mental abilities, and personality of students. To keep track of a person moving at his own pace in a continuous progress environment where the particular branching of the curriculum is tailor-made for his own learning aptitudes and level, requires a computer to manage the curriculum and assist with the instruction. Emphasis is upon the learner rather than the teacher. The teacher may be necessary for learning under some circumstances and may actually be a hindrance under others. The student begins at that point in the curriculum where he is best capable of learning and moves at his own rate with his behavior being reinforced—rewarded or disapproved—immediately following his answer. The particular sequence of the curriculum may be controlled almost entirely by a computer or it may be completely under the control of the student, depending on the type of material to be learned, the kind of student, and the purposes of the instruction.

An important first step in the development and implementation of new technology is the preliminary sketching of a design for the future. Given existing technology, current trends in society, and probable developments in the near future, what might instruction look like in 10 years, provided there is sufficient support of the necessary research, development, and transfer of new technology on a large-scale basis? Let's imagine for a minute what this educational environment might be, given existing technology and likely developments in the near future.

Responsive environments for learning could begin at infancy in the home as well as in special day-care centers. Many children could be grouped from the age of three on and there would be no sudden entry into school. Most instruction would be individualized with a continuous diagnosis-prescription-evaluation cycle so that the student could gain mastery of basic skills as efficiently as possible. Learning resource centers with computerized libraries and communications controls would be the center of education just as the library is the center of knowledge within our great universities. Study carrels or teaching terminals, however, would be remotely located for the convenience of students.

The lock-step, self-contained classroom would gradually disappear. While we would still have lectures from distinguished speakers as well as demonstrations and multi-media presentations for large groups, the current classroom scheduling system and sequence of courses on a semester or annual basis could be largely replaced as the uniformly prescribed curriculum disappears. Computers would take over most of the drudgery of scheduling classes, allocating learning resources to individuals and groups, maintaining progress records while preserving their confidentiality where appropriate, compiling and scoring tests, providing easy access to files of information for reference or guidance by students and teachers, and a host of other management activities. For major segments of the curriculum, the computer would also provide direct interaction between the student and the subject matter to be learned, whether the instruction involved drill and practice in arithmetic or foreign language, tutorial interaction and dialogue, or problem solving and simulation of complex phenomena.

Most of the interaction between the computer and the individual would occur at remotely located inquiry terminals or teaching stations.

A typical terminal would consist of a visual display device, perhaps an ordinary television screen, for presenting both moving pictures and still images to the student. In some cases, provision would be made for graphic or schematic material to be superimposed locally on visual images received from afar. Video-tape recording/playback features would be present at the terminal, making it possible to shift quickly and economically from one segment of the instructional module to another, repeating where necessary. The terminal would also have audio output in the form of segmented speech, probably generated locally from random-access storage in harmony with the visual display. Limited capability would be present for generating short spoken phrases and sentences in a tutorial dialogue with the student.

The student would communicate with the curriculum material by either typing on a simple keyboard or pressing a pen at the desired location on the face of the visual display. He would be able to draw lines with the pen across the visual image as well as specific points, and the computer would interpret the graphical input before producing an appropriate response to the student. A hard copy of the dialogue or portions of the computer output could be obtained from the typewriter, from a photograph of the visual display, or later from the computer storage unit before it was erased. Sensory-motor aids would be available at the learning terminal for the blind, deaf, or physically handicapped person. Children with specific kinds of learning disabilities would have special types of individual instruction at the learning terminal as well as intensive tutoring in small groups.

Many of the hardware components for a prototype terminal similar to the one described above are close to completion now. Existing systems for computer-assisted instruction already have some of these features. And several major companies are now designing hardware configurations that will eventually have the functional capabilities outlined above. It is now fairly certain that the cost of such a system can be sharply reduced by mass-production to the point where it is economically feasible to think of large-scale implementation.

The use of the computer as an instructional tool is only one of many applications of computers in education. Most of the rapid growth of computers during the past ten years can be attributed to the vastly improved administrative services, high-speed numerical calculations, and large-scale file management made possible by the modern computer. While many of these applications proved their worth initially in solving problems for business, government, military, engineering, and scientific research, their contributions to education are proving just as profound.

Among the more important applications of computers that must be vigorously extended in the immediate future, if we are to raise significantly the quality of education for everyone, are the following:

(1) the transfer and adaptation of business administrative services, including program planning, budgeting, and control as well as improved estimation of cost-effectiveness;

(2) the improvement of educational management services by providing for the rapid, inexpensive processing of information dealing with such things as the admission of students, the continual updating of student records, the scheduling of classes, registration of students, and reporting of student performance;

(3) the management of learning resources and individually prescribed instructions of all kinds;

(4) the provision of computer-assisted instruction, where the materials to be learned and the instructional sequences themselves are stored in the computer or at a terminal serving as a teaching machine;

(5) the storage and retrieval of library materials; and

(6) the amplification of the computer as a problem-solving tool for instructional purposes ranging from numerical calculations to the simulation of complex phenomena, gaming, and artificial intelligence.

It is entirely feasible to think of all six of these computer applications as part of the same educational support program using one computer system. The various components for such systems are already being developed in several universities, research centers, and private companies, although the effort to date lacks coordination and sufficient support to yield the desired result. A major effort requiring Federal organization and funds is urgently needed now if we are to realize the potentialities of computer technology for education in the seventies. Indeed, without such an effort, the realization of quality education on a universal basis through individualized instruction will fail.

The concept of individualized instruction is so fundamental to the ideal of universal quality education that it deserves to be examined in more detail. The term itself has been employed in a general way by educators ever since John Dewey's laboratory school at the University of Chicago before the turn of the century. The idea of adapting the curriculum to individual levels of interest, ability, and achievement is an enticing one that has eluded precise definition and demonstration. And yet, it is obvious to even the casual observer that the opposite concept, the lock-step classroom where every child is doing the same thing at the same time, is clearly unsatisfactory. Most teachers try to compensate for such leveling effects by giving special attention to certain children at the expense of others. Such efforts have only limited success at best, since it is impossible for one or two teachers to give undivided attention to each child. And even if they could, there is serious question as to whether they could keep track of the many details of the child's performance and the branching of curriculum units as they relate to the specific goals of the instruction.

Significant steps toward the ideal of individualized instruction have been taken recently in a number of educational settings that have been widely publicized. But these are only a small beginning compared to what must be done in the way of research and development before individualized instruction in the true sense of the term can be properly implemented as part of an integrated system with a central computer and many hundreds of learning stations. At present the cost of equipment is still prohibitive. The need to regenerate continuously the image on a cathode ray tube uses up a great deal of capacity that could be better used elsewhere. Interaction involving a light pen on the face of the display device increases greatly the rate of information flow, requiring expensive communication devices when the terminal is remotely located. A high-speed, high-fidelity, random-access audio unit is very expensive at present, although there is good reason to believe that within several years a suitable low-cost device will be available. Fortunately, much of the power and flexibility needed now for research and development will be less essential for many direct applications once materials and procedures have been perfected.

Even more important to solve in the long run are the software problems. These range from the need for better programming of languages to the lack of a sound scientific basis for prescribing specific sequences in the branching of the program.

The production of high-quality materials is very time-consuming and expensive. The equivalent of a three-semester-hour course in high school mathematics takes many months to develop and the cost may run as high as half a million dollars or more. Of course, once it is properly developed and perfected, additional copies can be provided for other users for only a little more than the cost of the raw materials themselves. As in any creative activity calling for a high degree of skill and experience, developing first-rate materials that properly exploit the unusual capability of a modern computer calls for a rare talent. Given the shortage of highly gifted authors, the technical difficulties of preparing good audiovisual programs, and the limited number of adequate computer systems for instruction, it is apparent that large-scale use of computer-assisted instruction is at least four or five years in the future.

There is good reason to be fairly optimistic concerning an estimated time scale of four to six years for large-scale implementation of such radically new and significant educational technology. New types of display devices, video-tape equipment, and audio units are now being designed for mass production which will dramatically lower the costs of learning stations. New computer systems with greatly improved software will soon be able to handle very large numbers of remote terminals simultaneously while also processing other kinds of information essential to the operation of tomorrow's schools.

What is still missing, however, is a major national effort under Federal funding and leadership to stimulate the needed research, to coordinate the development of essential components of a fully implemented educational system, and to make it possible for schools throughout the country to adopt the best products of such a national effort. Without such Federal funding it is unlikely that we will see new educational technology, curriculum reform, or sufficient reorganization and dedication of purpose within our schools to meet the educational challenges of the seventies.

More than $80 billion a year is spent on all forms of education, most of it in our public schools. At any one time, about one out of every three individuals in the United States is either a full-time student or teacher. In addition, countless others are engaged in various forms of self-study. Given the great importance of education in our changing society, any improvement in the efficiency of learning by the application of new technology is indeed significant.

Contrary to the skeptical criticism of some alarmists, there is no reason to believe that this new technology will necessarily dehumanize man. There are many things in this world that can be done better by machines than by human beings. The advent of the computer, and educational technology related to it, clearly points the way to major changes in education which will free the individual, both teacher and student, to interact in more human ways than ever before.

MEETING THE EDUCATIONAL NEEDS OF THE SEVENTIES: AN R & D APPROACH

Everett H. Hopkins, President, Regional Education Laboratory for the Carolinas and Virginia, Durham, N.C.

In a period of rapid and sometimes turbulent change, the American people have a great penchant for seeking shortcuts and easy solutions. The problems that plague our society today cry out for immediate and dramatic action. The experience of the last few years has taught us, however, that hasty moves to ameliorate the ills of society, no matter how well-intentioned, are in the long run not only wasteful of our resources, but often ineffectual. Poverty, urban decay, educational inadequacy, economic inequality, and social stagnation are blights upon the American scene so deeply rooted that they require carefully planned, research-based, massive, and long-range efforts if they are to be overcome.

Political pressures, of course, often require quick and intensive action by the government to demonstrate national concern for crisis situations. The initiation of the Economic Opportunity Act a few years ago is a case in point. There was a large-scale funding of community action programs across the country in both urban and rural areas. The need for these programs was critical, but nowhere at the community, regional, or national level did we have the trained personnel to carry out such programs, the research-based knowledge on which to base such training, or the type of experience required to make most of these programs effective. Historically, Federal assistance programs have been notoriously uncoordinated from the cabinet level to the community level; such was the case once again. Relatively little progress could be made, given the seemingly built-in resistance to change at every level of traditional welfare administration.

These past failures have strong implications for charting a course toward fulfilling the educational needs of the new decade upon us. It is clear that dollars alone will not solve the complex problems facing American education today. In view of the exhaustiveness of the study of the problems of public education by the House General Subcommittee on Education, one can assume a number of already established facts, among them: the pervasive resistance of education to change, the need for dramatic breakthroughs, and the breadth of the gap between what we have learned from research and experience and what we have so far been able to put into practice.

It is the thesis of this paper that precedents exist in industry, in the space and defense establishments, and in a small way within the field of education, itself, for meeting our educational needs by launching an adequately supported research and development effort.

The amount of money currently being spent on education throughout the nation is staggering; moreover, it can be convincingly argued that it is still not nearly enough. The next steps to bring about significant and constructive change in the educational process pose some basic policy questions. It goes without saying that Federal support of ongoing programs such as assistance to needy students, the NDEA program for graduate students, and EPDA should not only be continued but augmented. My major concern is for Federally supported, long-range planning—a substantial investment in research and development to increase the likelihood of a favorable cost-benefit return from programs like Titles I and III of ESEA, Title III of the Higher Education Act, the community action provision of the EOA, and other similar programs that need a research and development base to ensure a maximum return on the investments made.

The need at the moment is to establish priorities for Federal spending, both within the field of education and in general. It has been argued that R & D investments in any sector of the economy will produce important and valuable by-products in other sectors. An R & D investment such as the one in space technology, it would follow, should produce many important benefits for education and for society in general. The question is, then, where should the initial investments be made? Amitai Etzioni, director of the Center for Policy Research in Washington, D.C., and chairman of the Department of Sociology at Columbia University, has said that if it is true that the field in which the original investment is made is irrelevant, then instead of investing large sums in space R & D which will eventually trickle down to other needy sectors, let us invest first in education and other domestic problem areas and let the "spin-offs trickle into the space program."

It is not the intention of this paper to disparage massive support of our space program. It is, however, a strong admonition to consider priorities among the various categories of Federal support within the field of education, based upon practical and long-range returns expected from the Federal investment. The spectacular success of R & D activities in the space program suggests the proper approach for education. Education is so important to the national interest that it must have its own R & D program, and on a scale sufficiently large to make a measurable impact on the quality of educational practice across the nation.

In the short period of their existence, the educational R & D centers and the regional educational laboratories have demonstrated the potential contribution of the R & D approach toward solving many of the critical and urgent problems of education. The public investment already made, augmented by a much larger investment by private industry, portends an incalculably great eventual return. What is now called for is a Federal strategy to implement the program on a much larger scale. At present, industry invests about 5 percent of its total budget in its own R & D activities. Commissioner Allen has said that he hopes to see the percentage of Federal investment in educational R & D increased to at least 1 percent.

Charles L. Blaschke has observed: "For a society so adept in developing advanced technology, we have been grossly inept and negligent in concocting organizations and devising political and managerial innovations to apply technology effectively. This is particularly true in education, where technological innovations * * * stagnate without effective management and political planning," (*Educational Technology*, May 1969).

Mr. Blaschke has described the very problem to which the Administrative and Organizational Systems Program of the Regional Education Laboratory for the Carolinas and Virginia is addressing itself on a continuing and developmental basis.

Early studies and observations by this Laboratory convinced us that colleges and universities were not only extremely vague about their own institutional goals and objectives, but that important and far-reaching institutional decisions were being made without an adequate information base from which to make such decisions. Furthermore, in several colleges and universities where there appeared to be some concensus about institutional goals (as published in their general catalogs, for example), we found rather glaring incongruities between their declared goals and the quality of students, the quality of the faculty, the curriculum, and the overall campus environment. Intelligent long-range planning and decision making under such circumstances is obviously impossible.

In most colleges and universities (if not all of them), the information base for intelligent long-range planning and decision making is grossly inadequate. With a more adequate information base (about students, faculty, curricula, teaching methods, campus climates, student attrition, grades, etc.) and with new instruments for the measurement of institutional goal perceptions, it is possible to clarify (on a continuing basis) an institution's goals and purposes. From the goals, specific measurable objectives can be derived, i.e., specific objectives that must be attained if the broader goals are to be met. With clarification of institutional goals and objectives, it is possible to evaluate the quality and appropriateness of all major facets of the institution: admissions criteria, curricula, teaching effectiveness, administrative effectiveness, and the like.

This approach (now referred to as the "systems approach") requires many new instruments which must be developed and validated. New technologies, combined with the basic knowledge of administrative and organizational science, information science, systems theory, and continuous developmental research, make it possible to respond effectively to Mr. Blaschke's indictment of widespread ineptness and negligence in the field of educational management and planning. Furthermore, improvement in this area is now within reach, financially, of individual colleges and universities.

The new technologies, combined with educational R & D efforts, are producing unusually promising results for instruction as well as administration and planning. New instructional systems, based upon the specification of instructional objectives in behavioral or measurable terms, are now being perfected by the laboratories and R & D centers. The new systems include diagnostic analyses of student capabilities, optimal sequencing of course content, use of multimedia in the presentation of content materials, adaptation to students with differential learning rates and learning styles, and the objective evaluation of student achievement in relation to predetermined instructional objectives. Various adaptations of the concept of individualized instruction are being tested, with self-instructional materials for both teachers and students. Self-scoring kits which place more responsibility on the student for his own learning are also included. These and other developments are the products of regional educational laboratories and R & D centers. Indeed, the foregoing products represent those being developed and tested by a single laboratory—the Regional Education Laboratory for the Carolinas and Virginia. Multiply these by the 15 regional laboratories and the 10 R & D centers, all Federally funded under Title IV of the ESEA, and one begins to see the potential impact on the quality of public education in the seventies.

Research and development, dissemination, and diffusion of new products, materials, and processes in education are expensive. Furthermore, they will not perform miracles overnight. Nonetheless, they offer the same kind of promise that R & D efforts in industry, in defense, and in space technology have already demonstrated so impressively. The economic and social returns from the investment are irrefutable.

A Program for Federal Support of Research and Development in Education

1. Substantially more funds are required by existing laboratories and R & D centers if the rate of constructive change in educational practice is to be accelerated.

2. Based upon current and, we hope, expanded R & D efforts in education, new programs are required to implement a nation-wide strategy for demonstration, dissemination and diffusion of the new products and processes being developed. Bringing about constructive change is not easy, given the ways that school administrators traditionally administer, teachers traditionally teach, or school boards traditionally govern. Altering predispositions—often a bias against the very idea of change—of administrators, teachers, school boards, parents, and students requires a substantial investment in time and effort. Present programs do not emphasize dissemination and diffusion. Essentially, this is an assignment in communications, orientation, and training, but it must be made an integral part of a comprehesive R & D effort. Ideally, the greatest promise for success in this aspect of the overall process would be the establishment of a network of demonstration schools, under the regular administration of State departments and local boards of education, working closely and cooperatively with regional education laboratories. The same general arrangement should be equally appropriate and effective at the community and senior college levels. Each demonstration school or college could then be given the resources to monitor the diffusion of tested alternatives through existing mechanisms of local and State school systems. Such a strategy would provide a built-in opportunity not only for continuous evaluation but also for continuous self-renewal.

3. Specific provisions should be made to encourage widespread cooperation between the public and private sectors (i.e., Federally supported R & D programs and those programs now being pursued by private industry); working together, both sectors can accomplish many times more than can be accomplished by either sector alone, or by both sectors working independently.

4. Special funds should be made available to individual schools, colleges, clusters or consortia of schools or colleges, State departments of education, and other agencies for the express purpose of cooperating with laboratories and R & D centers on educational development projects that promise long-range cost-benefit returns.

5. A Federal policy should be inaugurated which would encourage (and sometimes require) the combining of funds from different legislative Acts or titles of the same act, or even from different Federal agencies (e.g., HEW, HUD, OEO, NSF, Defense, Labor, et al.) to accomplish program or project objectives in the field that could not be accomplished with the funds available from any single source.

6. There should be a more equitable distribution of laboratory and R & D funds between elementary and secondary education, on one hand, and higher education, on the other. With approximately $45,000,000 invested annually in laboratories and R & D centers, approximately $2,000,000 is assigned to higher education (R & D centers at Berkeley and UCLA, and the regional laboratory in Durham). This is less than 5 percent of the total. Moreover, provisions should be made for specific and substantial R & D funding for junior and community colleges.

With respect to the minimal need for R & D in higher education, Dr. C. Robert Pace, professor of higher education at UCLA, has suggested the following lines of expansion as a conservative target to be reached within three years:

a. Expand the present Regional Laboratory for the Carolinas and Virginia to encompass the 15 southern states associated with the Southern Regional Education Board;

b. Create a regional laboratory servicing the eastern and midwestern states, perhaps located in Pennsylvania or Ohio;

c. Create a regional laboratory serving the mountain and far western states, perhaps located in Colorado adjacent to the Western Interstate Commission for Higher Education;

d. In association with each of these three regional laboratories, develop two or three smaller satellite laboratories to facilitate still closer contacts with local institutions;

e. Expand the present R & D center at Berkeley;

f. Create a new R & D center, perhaps located at the University of Michigan; and

g. Expand the present R & D Center at UCLA, especially with respect to that part of its program concerned with evaluation in higher education.

Dr. Pace also has suggested the following general levels of support for the above network of R & D centers and laboratories for higher education:

a. Regional Laboratory (southern states)	$2,000,000
2 satellite laboratories @ $500,000 each	1,000,000
b. Regional Laboratory (eastern and midwestern states)	2,000,000
2 satellite laboratories @ $500,000 each	1,000,000
c. Regional Laboratory (mountain and farwestern states)	2,000,000
2 satellite laboratories @ $500,000 each	1,000,000
d. R & D Center (Berkeley)	1,500,000
e. R & D Center (Michigan)	1,500,000
f. R & D Center (UCLA), portion for H.E	1,000,000
Total for Laboratories and Satellites in H.E	9,000,000
Total for R & D Centers in H.E	4,000,000

This amount ($13 million) would be 20 percent of a total R & D center and laboratory allocation of $65 million as compared with the present total of about $45 million.

7. Additional funds are needed to encourage the cooperation and active participation of teacher training institutions in R & D activities of the laboratories and centers. Eventually, such participation should affect considerably and positively the quality of teacher training programs at both the undergraduate and graduate levels.

8. A new policy for funding should be established, providing laboratories and centers with three- to five-year grants in place of annual funding. Such a policy is absolutely required if these agencies are to offer sufficient job security to attract and hold professionally competent people who have many opportunities for permanent appointments in universities and elsewhere. Moreover, effective long-range planning is not possible under the present funding arrangement.

In summary, until the enactment of Title IV of ESEA, there were no continuing Federally-supported R & D activities in the field of education. Effectively, this meant that the Federal government had been making no long-term investment in mission-oriented agencies which were created specifically to bring about constructive and research-based change in educational practice. In the four short years following this piece of landmark legislation, the R & D approach has been greatly improved; the developmental process considerably refined; the rationale and strategies clarified; long-term objectives determined; new and cooperative relationships with schools, school systems, State departments, and universities established; and literally scores of new exportable educational products have reached various stages of field testing and evaluation in anticipation of widespread dissemination and diffusion. The overall program has been monitored in an extremely efficient and professional manner by the U.S. Office of Education. The critical and complex problems facing the nation in the decade of the seventies need and deserve the products of this most promising approach.

THE EDUCATIONAL NEEDS FOR DEPRIVED CHILDREN IN THE 1970'S

John F. Hughes, Federal Executive Fellow, The Brookings Institution, Washington, D.C.

THE EDUCATIONAL NEEDS FOR DEPRIVED CHILDREN IN THE 1970'S

As we look toward the decade of the 1970's, it is apparent that American education—from preschool through higher education—is confronting challenges on a scale never before experienced. At their core is the need to change the educational system so that it will validly educate *all* its children and youth. Such change means that the system must truly begin to educate the vast numbers of poverty students who have historically been locked into the society's urban and rural slums. To educate only the middle-class child is no longer to be tolerated; we are now challenged to educate the poverty student as well.

It is against the background of the events of the 1960's that this challenge is analyzed and proposals are made for new strategies that must be implemented if the decade of the 1970's is to witness the success of this venture.

The Decade of the 1960's—Needs and Responses

The education system began the decade of the 1960's with some major needs which it clearly recognized. Most of these needs could be classified as basically logistical and financial. The in-migration of the poor into urban areas and the out-migration of the affluent to the suburbs led simultaneously to overcrowding in the inner city schools and a decrease in taxing powers. With the schools serving more people than ever before, large classes and overcrowded facilities became commonplace. School budgets at State and local levels were generally insufficient to provide for new facilities, adequate upkeep of existing facilities, additional instructional staff, and supportive services. The need to desegregate staff and students, while having logistical and financial aspects, was basically calling for the system to provide equal educational opportunity for all our children and youth. In short, a moral and social commitment was being demanded on which the schools never before had been required to deliver.

The system also entered the 1960's with another major problem which it recognized but to which it was largely indifferent, specifically the vast number of disadvantaged children and youth who historically fell by the wayside. While there were—and always have been—dedicated teachers and administrators struggling to educate the disadvantaged, it was generally considered that such children and youth would simply continue to fail as they had always done before. In effect, we had a *de facto* acceptance of the concept of the deficient child.

New Forces in the 1960's

But other forces were at work which surfaced in the early 1960's—and the shock waves which they produced continue to spread out in all directions. The most rapid *technological advance* in our nation's history began to manifest itself sharply in several ways. The rapid automation of thousands of unskilled farm and factory jobs threw marginal income people onto the welfare rolls. Concomitantly, automation and new industry created increasing numbers of jobs requiring people with communication skills and technical knowledge—and indicated the lack of trained manpower readily available to handle these new jobs. Reading handicaps surfaced as a widespread employment barrier. Declining achievement levels in the schools became critical because of the accelerating demands of skilled employment and continuing education. School dropouts became a serious problem because of teenage unemployment and delinquency. The schools began to receive increasing questions concerning these problems.

The accelerating *civil rights movement* became another force. Stimulating more than Federal legislation, it brought with it in the 1960's a new and growing concept of human dignity and personal pride. This concept, in turn, produced in our racial and ethnic minorities (black, brown, and red) a degree of assertive militancy that compelled recognition by the middle-class white majority. In the schools this concept resulted in rising expectations and demands from racially isolated groups first for integration, then for quality education, and finally for active participation in the control of school affairs.

The most important force of all, however, was the pressure which built up around *poverty*. The nation discovered that poverty was a national problem—and it also learned that poverty was at the root of these other problems. With typical American directness, the nation then decided to tackle the problem head-on with the determination to solve it. The ignored disadvantaged children and youth in our schools were not in the spotlight, and, with them, the educational system. The net effect was that the educational system was brought face to face with its failure to function effectively for a major segment of society—the poor. This failure led to the discovery of numerous unmet needs, among them health and nutrition, and inappropriate learning programs for poor children. Historically, the failure had always been there, but it had been generally overlooked by society as long as the "rejects" of our educational system (those who did not achieve in the traditional academic structure) could find employment or obscurity in the arena of unskilled and casual labor and were content to remain silent.

While the schools shared the problems of poverty with other public services, they were also the victims of multiple troubles of their own. The continued migration of families from farm to city was creating pressing needs in the inner city. Declining tax bases were eroding the local school revenues. Creeping desegregation of *de jure* dual school systems in the South was accompanied by galloping *de facto* racial segregation of our urban schools. Rising costs of education were rapidly pricing the urban schools out of the market in public service and in the competitive personnel arena. And professional militancy surfaced to challenge the authority of the traditional school officialdom. During this time, the suburban areas were acquiring the bulk of the middle-class taxpayers and the high-achieving students. These areas were also facing the problems of explosive expansion. State legislatures were torn among meeting the competing needs of rural, urban, and suburban school systems.

In the face of these pressures, the new challenge to provide relevant and useful education to their millions of human rejects was too much for the schools. And so they turned—with much encouragement and guidance from the Congress and the President—to Washington for direct assistance with their most persistent problem.

The Federal Response

The main Federal response, coming in 1964 and 1965 with the passage of three landmark laws, delivered two needed elements as far as the educational system is concerned. On the one hand, the Elementary and Secondary Education Act ESEA (1965)—and particularly Title I—provided more funds then ever before for the education of poor children. The Economic Opportunity Act (1964) with its strong community involvement and education and education-related programs, such as Head Start, Follow Through, Upward Bound, provided both for additional funds and new people to come into the school system in one way or another. On the other hand, these acts were also making it clear—although not explicitly stated—that the schools were neither performing effectively for poor children nor could they continue to do so without there eventually being an accounting. While provisions lay within Title I ESEA which signalled the kinds of accountability which would be demanded, it was the Civil Rights Act (1964) which contained the most direct avenues for redress of discriminatory practices. EOA (1964) also contributed both by its structure of funding and by its involvement of local community residents in the planning and operation of programs.

Results—Anticipated and Otherwise

Whether the nation fully anticipated all of the combined implications of these three laws—and it is unlikely that anybody at the time could have seen all of them—the Congress had clearly and avowedly taken a course of action which identified a target population group for special educational benefit. One result which became equally clear was that there had been practically no overall preparation of the educational establishment to exert the advocacy on behalf of poor children called for by this new mandate. In trying to meet the needs of these children, we have discovered the depth and multiplicity of the problems of the educational system. Still to be resolved effectively, the most critical of these problems are:

1. The authority structure of our schools which has carefully limited formal authority to boards of education, school superintendents, principals, teachers, and various staff officials who determine and carry out educational policies within the school districts. Federal funds have generally recognized and reinforced the existing pattern of authority. Title I of ESEA modifies this pattern in that the Federal funds are legally assigned to school administrators, but it also requires the involvement of parents of poor children and other groups in the design of programs which are administered with these funds. In effect, this requirement for involvement calls for a degree of influence over school programs to be exercised by poor people somewhat comparable to that historically exercised by middle-class citizens through elected school boards and local PTA's. The resistance of the authority structure to the influence of the poor on educational programs has done much to stimulate the national movement for community control of schools by the poor and their advocates—and criticisms of Title I itself.

2. Inappropriate programs which cause many poor children to leave school—or simply to stay away from school for extended periods of time. As a result, they fail to acquire employable skills. Striking examples of these conditions can be found among blacks and Puerto Ricans in Harlem, black children in the Mississippi delta, whites in Appalachia, and Mexican-Americans in Texas. Schools in these cases have further evaded their responsibility to educate their poor children through various weaknesses in school attendance laws, and have thus contributed to alienating segments of the target population against the school system.

3. Teaching staffs which are all too often hobbled by a series of inadequacies in the system, such as low pay; low professional status; poor quality training programs; rigid and irrelevant professional practices; and an inability to recognize and use the potential of other professional and paraprofessional contributions.

4. Funding levels of education progams and services which are completely inadequate where they are needed the most. Most of our schools in the poorer areas are struggling along at about half or even less of the $1200 per year per child which is the amount estimated by school authorities as the minimum requirement for comprehensive quality education. Only in our wealthiest suburbs do we find such expenditures reaching the $1200 level. The poor child who needs so much more from his school can only receive less.

5. Educational programming for poor children, which is lagging far behind the needs for curricula to prepare these children successfully for life. Educational research has not produced—indeed, it has hardly tried to produce—curricula truly geared to the special needs of these children. Scattered "success stories" do exist, but these programs are difficult to replicate because of special training of their staffs, and their costs are frequently beyond the budgets of local districts.

If the educational system was generally unprepared to exert advocacy on behalf of poor children, such was not the case with Congress. That Congress did indeed perceive the ESEA mandate in this manner was signalled in several ways. The first of these was the concept of the target population; the second, the promulgation of a funding formula to reach this population; and the third, the provision for assessing the effectiveness of this new approach to educational funding.

The two provisions for assessing the effectiveness of programs for poor children are worth noting. One provision was that periodic reports would come to the Congress indicating the extent to which the local schools were successful in using the Federal funds to enhance student achievement and attainment. The other provision established a National Advisory Council on Disadvantaged Children to report to the President and the Congress on the progress of Federal efforts in behalf of educationally disadvantaged children. The two provisions have already produced some far-reaching effects.

1. The notions of evaluation and accountability were made explicit for the first time. They produced, in effect, a national movement for school evaluation which has focused critical attention on the performance of our schools.

2. The reporting of the evaluation results by local school districts, State educational agencies, and the U.S. Office of Education has primarily revealed the enormous depth of the problem and the slowness of achieving tangible improvements in the achievement areas. Since 1965, these reports have generally shown a mixture of successful and unsuccessful programs and services for educationally deprived children with the use of Title I ESEA funds.

3. The Federal, State, and local reporting procedures gave the Congress and other public agencies and groups comprehensive sources of information which spotlighted problems and made them available for public inspection. The National Advisory Council has provided the Congress and the public with an expert and objective source of advice and criticism on the effectiveness of a new program and its administration.

4. The scope and complexity of the Title I mandate precluded the advance formulation of clear-cut program objectives and strategies by either the Congress or the Administration. The result was an im-

plementation with no opportunity for conceptualization of what the programs should encompass. In turn, this surge was followed by evaluations which also lacked adequate conceptualization indicated by the use of reading achievement measures as the primary criterion for success in complex social areas. Much of the ensuing discussion and debate over the effectiveness of compensatory education has arisen from the fact that reasoned expectations of progress, based on conceptualizations from research findings, were largely unavailable in 1965.

Despite the problems of conceptualization, program design, and evaluation mentioned above, the most important result has been that Title I has succeeded in developing and identifying a number of effective approaches to overcoming the deprivations suffered by poor children. Program approaches which have suceeded are generally based on a set of principles which include all or most of the following:

1. Careful inventory and analysis of the economic conditions of the families of children, by school attendance areas.
2. Specifications of the educational and related health, welfare, and nutritional needs of the children in those schools of highest concentration of poor children.
3. Design of programs to meet the *multiple* needs of those children.
4. Concentration of program services on a limited number of children based on the availability of funds to cover the most pressing needs of such children in the school centers of highest concentration.
5. Involvement of the parents of the children receiving compensatory education to assure their support of programs and their participation in them through volunteer services or employment.
6. Coordination of compensatory education programs with related community services of a health, welfare, and nutritional nature for maximum impact on the target population.
7. Careful program design of appropriate curriculum, formulation of measurable objectives for the program, and accurate evaluation of progress.
8. Total systems support for the concept of compensatory education for poor children.

Using these principles, the more successful schools have designed many program approaches which have proved effective, such as the following:

1. Programs of early intervention in the lives of children with emphasis on preschool services (beginning at age 3) which provide comprehensive, continuous services and a relevant curriculum through the early years of schooling. The most successful of these projects typically combine Title I ESEA funds with funds coming from the Economic Opportunity Act for Head Start and Follow Through.
2. Programs of developmental reading for children in the early elementary school years which include careful diagnosis of reading deficiencies, correction of physical and social handicaps, and implementation of reading programs based on the individual needs of each child using materials appropriate to his background with appropriately trained teachers.
3. Bilingual educational programs which stress the strengths of bicultural children and their families, and the development of programs which are based on positive learning expectations of children.

4. Special services programs for handicapped children emphasizing careful diagnosis, use of proper facilities and equipment, coordination of professional services with health centers, and the use of appropriate curriculum and teaching procedures.

5. Special services for migrant agricultural children giving recognition to intensive services during periods of residential schooling in their home communities, and continuous and coordinated servicing and instruction in the receiving schools during migrancy periods.

6. Overcoming lack of school attendance and poor motivation of students in the intermediate grades by carefully designed programs of school counseling with appropriately designed curriculum related to the employment prospects of the children.

7. Stimulation of continuing education of able secondary school youngsters by early identification of their potential and the design of a program of studies which permits individual progress, remediation of skill deficiencies and compensation for inadequate home environment.

8. Provision of job related secondary education for youngsters who have left school, or will leave school before graduation, because of their rejection of the traditional curriculum and the irrelevance of programs designed for college preparation.

The Office of Education has sought to identify such effective programs and to disseminate information about them. In addition to program summaries in reports to the Congress, the Office has available publications which include: (1) *Profiles in Quality Education* (a description of 150 successful Title I programs), (2) the *It Works* series (a detailed analysis of 21 programs evaluated by the American Intitutes for Research with evaluation data on student achievement), and (3) program models for Follow Through projects which describe the various approaches used by leading program consultants in early childhood education.

To summarize, the decade of the 1960's has provided the baseline legislation; a genuine target population with documentation of its needs; a full recognition of an educational system which has been variously insensitive, unimaginative, and underfinanced in its response to the challenge to educate its hundreds of thousands of poor children and youth; and a growing knowledge of effective approaches for deprived children. Thus, the decade of the 1970's begins with identified but only partially met needs of poor children, some promising approaches, an educational system in deep trouble, fianacially and programmatically; a change process gathering momentum—not only in the schools but in our other social institutions, as well; and a decision facing the Administration and the Congress—whether to complete the monumental mission begun in the 1960's or not—a mission involving the rescue of 10 million children.

The Decade of the 1970's—Proposals

The knowledge gained in the 1960's has given us a solid grasp of what the educational needs of the 1970's will be. In general terms, they can be stated as follows:

1. To meet fully the needs of impoverished children and youth which have only been partially met before.

2. To effect major reforms of the educational system in terms of its financing programs, and practices—in short, the establishment of a new set of priorities.

3. To implement fully those approaches which have effectively conjoined meeting children's needs with creating system reform—including the continued development of new approaches.

4. To resolve all of these needs in the broad social context in which the children live, the schools function, and other institutions have important roles.

It is already certain that Federal laws and programs will have to play a part in addressing these needs—the precise scope and nature of the Federal effort await the consideration of the Congress. If the part is to be of major significance, it must involve a decision by the Administration and the Congress to continue the intervention begun in the 1960's on a sharply stepped-up scale with clearly defined objectives and a specific timetable. This decision, must, however, be carefully determined, based on our experiences with Title I ESEA and EOA's education-related programs. And it must come quickly—there are too many children's lives at stake to spend another decade mounting small-scale, narrowly conceived studies in search of what works.

Basically, we now know what works—what we really need is the sustained courage, dedication, and support to apply what we know does work through such programs as Title I. It is on this rationale that the ensuing proposals are based.

Meeting Needs of Children

The target population concept of Title I ESEA permits us to identify the children whose needs are greatest, to diagnose those needs, to prescribe treatments for them, to implement specific program approaches, and to assess progress so that we can measure the success of the child rescue effort in which Title I is engaged. In following this course of action, we must assign a priority to meeting the special needs of poor children with Federal assistance in clear recognition of the fact that State and local efforts in this area will neither be sufficient nor will carry the priority that will be needed to do the job.

In order to establish this priority, it is proposed that Title I ESEA be amended and strengthened to accomplish the following:

1. Clearly establish a national commitment to identify for special and continuing assistance those children (estimated to be 10 million) who come from low-income families and who need comprehensive services to enhance their educational attainment, from preschool through secondary school.

2. Provide a Federal payment formula that will assure assistance to such children on a scale sufficient to meet their special needs (estimated to average $500 per child) in excess of the funds otherwise available from State and local sources.

3. Make adequate provision for concentrating Federal funds on target children first and on their target schools second, so as to avoid clearly the danger of using the Federal funds on non-target schools and children.

4. Provide for and require the treatment of health, nutritional, and social needs of children on a continuing basis to assure the success of learning programs for children in the schools.

Major Systems Reform

Our objective to meet the special needs of children will not be reached unless it is combined with measures which change the manner in which school systems traditionally operate. School systems have acquired rigidities over the decades which are strongly resistant to change. Many of these rigidities function directly counter to the principles of giving special treatment to a beneficiary, while still others enlarge upon the inequalities which depress the poor.

Systems reform must be built into the Federal legislation in ways that assure special attention to the needs of poor children and that reverse practices which have denied the poor the financial and materials equality which the schools advertise as their policy, but which they have not generally implemented.

As a means of inducing the kind of reform that must occur within the system, it is essential that the Federal legislation provide for the following:

1. Specific requirements that school systems achieve an equal apportionment among all their schools of State and local resources—in both quantitative and qualitative terms—prior to the allocation of Federal funds to target schools and children.
2. Measures which assure that the target population shares fully in the local decision-making processes of: (a) assigning priorities for using Federal funds; (b) designing programs; and (c) monitoring those programs.
3. Commitments from applicant agencies to modify existing school programs and services in keeping with the educational needs of poor children.
4. Inclusion in all programs using Federal funds of requirements for clearly formulated performance standards which will insure fiscal and programmatic accountability and maximum productivity in the use of such funds.
5. Arrangements for objective evaluation of the results of programs based on these performance standards.
6. Recognition of the special problems faced by our large urban school systems in coping with population migration and mobility, in overcoming the erosion of city revenue sources, and in adapting school programs to the school population of the inner city.
7. Recognition of the special needs of declining rural educational systems to cope with problems of: (a) teacher training and recruitment; (b) the lack of staff expertise in small districts to plan new programs; (c) needed improvements in school district organization through consolidation; and (d) other special problems of the rural areas.

New Approaches

Educational theory and practice have not as yet evolved an accepted strategy for achieving quality education and effective learning experiences for all poor children. In fact, the bulk of our national experience in the field of compensatory education is the direct result of Federal programs funded by Title I ESEA or by Head Start and Follow Through under the Economic Opportunity Act. The experience embraces: (1) additional services for entire target populations, (2) innovations designed to meet the special needs of poor children, and (3) research and demonstration efforts with small groups of children to test and disseminate new programs based on their effectiveness. While some systems have had limited examples of success with their efforts, no school system has as yet devised and installed a completely effective system for treating all deprived children.

In the 1970's major national and Federal attention must be focused on methods for implementing effective approaches in teaching poor children so that good programs replace ineffective ones as rapidly as possible, but this must be accomplished no later than the end of the decade. In order to accomplish this purpose, it will be necessary to incorporate in the Federal statute provisions which make both necessary and feasible the introduction of proven approaches in teaching the poor and serving the needs of all children.

So that this purpose may be realized, the Federal statute should call for the following:

1. Arrangements for technical assistance at Federal, State, and local levels to identify, describe, and implement new and effective approaches (overall designs and strategies) for teaching poor children.
2. Adequate measures for assigning fiscal priority in the use of funds at Federal, State, and local levels for those approaches which have proven to be effective and which give substantial promise of making a positive difference in the lives of children.
3. Assurances that children will be introduced to and retained in programs (the implementation of the approach, including supportive services, curriculum training, etc.) over a sufficiently long period of time both to achieve the retention of educational gains and to accomplish their optimum functioning in the school environment.
4. Adequate arrangements for the development of curriculum (the design for educational learning in the classroom) and the training of teachers in new approaches to assure the necessary logistical support of the new program effort.

Social Context of the Schools

A weakness of traditional school operation which has been exposed by the operation of ESEA Title I is the extent to which schools have functioned in isolation from other social agencies in society which also serve the children of the schools and their families. By the same token, Title I activities have brought the schools into direct relation with these agencies. Not only are the schools now cooperating with health, welfare, housing, employment, and nutritional agencies which have responsibilities to serve children of the schools, but the schools are also finding that the success of learning programs for the children is dependent on their integration with other social forces, such as youth groups, which are also at work in the community.

Institutional arrangements for coordination of public services are notoriously ineffective. However, the schools have a unique potential for servicing broad social as well as educational purposes, because of their proximity to the client population and the depth of their involvement with all children in the community.

New legislation must broaden and make more explicit the role of the schools in serving the total social needs of children and their families. To this end, it is proposed that:

1. New legislation make explicit reference to the social responsibilities of schools serving poor children and the manner in which planning

for such responsibility is to be carried out in coordination with other social agencies.

2. Provision be made in the statute for special funds designed to develop model approaches geared to varying situations to guide the schools in the development of effective plans for serving the education-related social needs of children in coordination with other community agencies.

3. State and local plans for participation in the Federal program of assistance should make adequate provision for the development and training of special professional staff—and for the training of community workers from the target areas—to perform new roles in the community designed to link the schools with the homes and neighborhoods of the children.

4. Provide for the flexible use of Federal funds by non-educational agencies in ways designed to foster new services in the communities without requiring duplicate staff and services to be developed by the schools.

Summary

A goal that is within our reach in the 1970's is the realization of a valid education for ten million poor children who are entering this decade with the educational odds stacked against them. If we as a nation pledge ourselves to the accomplishment of this specific visible task, we can lead a generation—and their descendants—out of poverty. In so doing, we can thereby break the vicious cycle of poverty.

We have the challenge before us in the identity of children who are known to the schools. We have made a significant start on this task by the five years' experience of ESEA, which has documented the needs and has begun to fulfill them. We now have the know-how in the way of educational approaches that have proved effective in meeting the special needs of poor children. We have the financial resources at the Federal level if we will pledge them to this priority assignment. We have moved the school system of the nation in the direction of needed changes that will reform their operation and successfully involve the population we are seeking to help. We have raised the hopes and aspirations of poor people across the nation to the belief that education is a means of escape from poverty and that education will be free, equal, and sufficient to meet their needs. We have involved the professional staff of the schools in a new mission which challenges their professional competence and dedication. We now need a national commitment in the form of effective legislation that will assure the resources and the Federal leverage on the school system to accomplish the goal of equality of educational opportunity during the decade of the 1970's.

ONE OF THESE DECADES . . .

John J. Hunt, Superintendent, East Windsor Regional School District, Hightstown, N.J.

The General Subcommittee on Education has a far more difficult task in facing the question of Federal involvement in education in the seventies than its predecessors did in facing the sixties. The current members have the unfortunate reality of Federal involvement in education in the sixties as input into their deliberations. This reality makes it clear that those who put programs into effect during the sixties fully expected the educational results to accrue to their benefit.

Those who take time to contemplate the seventies must perceive that Federal programs put into effect during the seventies can only realistically expect educational benefits of any magnitude to accrue in the following decade. One example will suffice; an average input of five billion Federal dollars per year for every year from 1960 through 1969 in a completely controllable and centralized organization placed men on the moon in the same decade. The Federal dollar input into a completely decentralized assemblage of social institutions—even an input as glorious as that mentioned above—could not realistically be expected to yield educational benefits of magnitude in the same decade. And this does have a way of dampening the enthusiasm of legislators.

For the reader who has time enough to read only this page, let me summarize. The Federal government can provide the leadership as no other segment of government can during the seventies by enticing each State to (a) orchestrate the educational efforts within the State, (b) open the individual educational systems to a greater variety of personnel, to technology and industrial involvement, (c) insist upon precise accounting from each system as to their effectiveness and performance in accomplishing their educational purposes and relating them to the dollars they spend. At the local level, the Federal government should categorically support those systems which demonstrate effective use of the money they expend. At the national level, the legislators can insist that the Federal bureaucracy, and the Congress, as well, plan and commit themselves further ahead than six months in the past.

For the reader who has time enough to read on, let me outline what is to be found in the next few pages. There is a short discussion of the product of elementary and secondary education, namely, the student. This is followed by a section which deals with the educational system spelled with a capital "A" since it is not a system but an assemblage. This precedes a discussion of public school systems spelled with a small "s" because of their current organization which ofttimes prevents effective use of public moneys to accomplish the public's will. An optimistic summary completes this paper

The product of our efforts in education, the student, is causing some alarm these days. The secondary school students seem to have learned well the social lessons of the sixties which were applications of the Ghandian type theories of civil disobedience. Dissatisfaction with the *status quo* has been the motivation, in many cases at least, for disruptions and massive denials of the established school authorities. To those of us who have spent time discussing this phenomenon with students and educators, there seem to be some directions discernible for the seventies which should be mentioned here.

In order to be dissatisfied enough with the *status quo* to disrupt it, two ingredients are usually identified as present. First, the dissatisfied person or persons have a fairly clear understanding of what might be or what they wish existed. Second, there exists a frustration with the current organizational efforts to move toward achieving more of what might be.

The understanding of what might be comes from what is learned to a major extent in schools. It is possible for educators with some justification to point with satisfaction to students who have learned enough about their environment and its democratic potential to be dissatisfied with its accomplishments thus far. One might reflect that the nation itself was conceived by men who envisioned something more than existed then in society, and it is these men about whom the students learn in school. The students are not learning, however, that the men of that time were able to see how organizations, moving deliberately, could improve the society permanently and without the regressions that accompany change based on the personality and charisma of any mortal man. We are not teaching this successfully; hence, we educators, if we can point to a plus, must also relate to the minus.

How might we teach the students of the seventies the value of change which, though slower perhaps to reach fruition, is permanent because it depends on no man for its continuance? How about starting it, as some suggest, by involving students in the established school and social organizational patterns and decision processes? The adolescent is not a virus fatal to organizations and adults with whom they come in contact. They are developing and maturing individuals actually anxious to learn how things are done by adults in the adult world.

If the student were involved in the existing organizations and they had some success through such involvement in achieving change, might not the adolescent then be committed to supporting the system through which he has had success? If the adolescent is not involved in what is, how can we expect him to relate the organizations of today to the accomplisment of what might be?

It is this type of reasoning which leads to the conclusion that the seventies will see greater student involvement in the educational process, not for the purpose of co-opting his energies but with the express intent of teaching the adolescent the other half of the social equation on which our republic is founded.

The *system* in which the student now finds himself involved might be described as an *assemblage* of institutions all doing much the same thing though without any apparent central direction or control. For the sake of discussion, allow the assemblage to be divided into two parts. There is that part into which the student selects himself. This is the portion beyond Grade 12. Although a college or university may select its enrollment from among applicants, the applicants have freely selected a life option to become involved in study beyond Grade 12.

The number of students in this level is climbing rapidly, and we might well expect that portions of it will approach the universalness of elementary and secondary education in the decade ahead. Let us assume that the first two years of education beyond Grade 12 are selected by the entire universe of students completing the first 13 years. Further, assume that a full half of the universe of students selects to continue two more years beyond the fourteenth grade. Then, and only then, would this portion of the assemblage have in it three-seventeenths of the total. The segment which we now call universal would, under this set of assumptions, still be dealing with thirteen-seventeenths of the total.

Sometime between now and the time when the three-seventeenths is a fact, it will be necessary for Federal appropriations committees to wrestle with a major allocation problem. How much of the public Federal monies will be allocated to that portion of the educational assemblage which deals with 18 percent of the total enrollment?

It is always a fascinating discussion which ensues when an explanation is sought as to how it is that the assemblage of educational institutions known as school districts, each independent from the other, end up doing much the same educating without any apparent overseer or controller. Add to this similarity across institutions, the sameness within any one institution from year to year, and one is forced to conclude that we have either found the one Holy Grail method of educating or we exist in closed systems bent upon the self-perpetuation of a traditional institution.

If the former is the case, then the seventies rightfully should be more of the sixties with appropriate adjustments for added cost because of enrollment and inflation. If the latter is a better approximation of the facts, then we must find some way of opening up these systems during the seventies. Since the school district is directly answerable only to the State, the key must lie at that level. For no other reason than because it is a common characteristic from State to State, personnel certification techniques have to be considered as an ingredient wrapped up somehow, perhaps even unwittingly, in the preservation of closed educational systems. This may well explain the increasing assaults upon what are called "restrictive" certification requirements. The seventies will witness continued and increasing dissatisfaction with certification requirements from those who are not satisfied with the performance of public education. And since the private elementary and secondary schools represent a ready example of educational institutions with at least equal performance records, justifiable defense of current certification requirements is difficult, at best.

The Federal government can contribute to opening the systems up by enticing the States to adjust those procedures within its boundaries which prevent interstate pursuit of an occupation such as teaching. It can go further by enticing the States to foster industrial participation in public education.

A model for such involvement during the seventies is not difficult to identify. The university professor who moves back and forth from his university seat to his governmental position is one. The medical doctor who has his private practice and also teaches in a medical school is another.

Of all the educational needs of the seventies, there is not one which contains more hazards for a legislator than the one just mentioned. An organized educational "profession" or "union," whichever the reader prefers, now achieving major power and salary gains might not be disposed to support the re-election campaign of a legislator who has disrupted the restrictions on entry into the card-carrying ranks.

No better example of the need to involve industry in education exists than the example of vocational education. All levels of government have invested large portions of the total funds which they have made available for education into vocational training and yet dissatisfaction with the output prevails. In a nation capable of industrial feats equaled by none other, it would seem likely to expect our vocational training would be a model to be copied the world over. But this is not the case.

The reason it is not a model may lie within the fact that the industrial organizations and the workers in them are prevented from teaching in the schools that which no one does better then they. One particular example will suffice. The teacher of welding in a public school and a welder in the private sector currently have little or nothing in common. Would it be unreasonable to find a way whereby a welder would be able to participate in the teaching of welding to students at his regular wage for a few hours a day for perhaps a month or two?

During the sixties the industrial sector of our nation perfected the technology of communication to such an extent that it could provide most of the world with an eye witness experience of the first "small step" of mankind on another terrestrial body. It was also preserved for all time so that generations to come can witness it as it happened. When school opened the following fall, a relative handful of school districts could reproduce this event through technological means which have been available at reasonable costs for at least half the decade. School districts for years to come will pay teachers to explain how it was done when the principals involved in actually conceiving and executing the plan explained it personally, at no cost to the viewer, and this is reproducible for pennies for years to come.

Students know the responsibility of the public schools will operate in a world already indispensably dependent upon the computer. These students should be as accustomed to this technology as this generation of legislators is accustomed to the electric light. And yet, only a relative handful of the educational institutions in the entire spectrum of the assemblage bring their students into meaningful contact with this form of technology.

There is so much in technology from which education can benefit. Everything from student-teacher ratios (33 million children learn from one man in one cartoon on Saturday morning) to teacher competency (Wernher von Braun personally explaining the Saturn rocket system precisely and consistently for years to come via videotape) is subjected to a new scrutiny in the light of what can be done with technological assistance. The distance between technologies with current, inexpensive applications in education and their uses in education is increasing rather than closing. There seems little recourse but to make a quantum leap by bringing the people from industries who are accustomed to using such devices into the educational institutions as participants who will bring their technological "customs" with them.

The public elementary and secondary school *systems* (small "s") which are independent, locally controlled, and to a major degree locally funded, represent the unit of organization capable of converting Federal, State, and local desires for education into reality. Until recently, however, there has been little demand from any level providing funds to the school system for an educational accounting of their stewardship. A financial accounting has always been required, but an educational accounting—never.

Now, however, public money is dearer to the taxpayer and he is beginning to insist upon an educational accounting of the money he has already given to his local school system before he gives more. Herein lies the new development of which the Federal government can and should take the fullest advantage.

In its own funding, the Federal agencies should base their decisions about continued support on the extent to which the moneys they invested have been used effectively. If effective performance does not exist, and if it cannot be shown to exist, it should be assumed not to exist, then the funds should be cut off.

The Federal agencies have experience in this. It worked fairly well in desegregating formerly dual school systems. It is done in the Defense Department regularly. It is successful where effectiveness is rewarded over ineffectiveness. General aid does not take into account effectiveness. Categorical aid could. If general Federal aid becomes a reality in much the same fashion as general State aid, then it should represent only a portion of the total Federal moneys. The rest should go to those districts which can demonstrate its effective use.

Along with the requirement for performance will have to come assistance to the locale in mastering the techniques usable in determining effective performance. This assistance would have a spillover benefit quickly realized. Once such a capability exists in a local school district as the result of participation in a Federal project, it becomes applicable to the locally and/or State funded programs within the district.

It is at this juncture that the Federal and State Governments could combine efforts. The State agencies have the same need to know how effectively their moneys are being used. By requiring such educational accounting and disseminating the results jointly, the State and Federal governments could spur improvement faster than they could by attacking any single problem in the seventies. This could reach right to the heart of education in the next decade.

Until the public agency is required to account to its public for the output it is achieving before it gets more funds, the motivation to be responsive to the public's will is absent in the agency; or it is founded on altruisms. Esoteric arguments to the contrary, education can be much more accountable before the ledger greys into questions of value judgments and the non-measurable "good" inherent in the educational objectives of this nation.

One final item worth mentioning as a need in the seventies. School districts have always taken it upon themselves to "go into the business" whenever something was adopted into the system. When transportation was adopted as part of schooling, districts went into the business of transportation. The hot lunch program took school systems into the restaurant business. When space was needed for a new school, we "bought" a building.

With the tremendous increases in salaries now occurring for personnel in education, and with the rapidly rising costs of equipment, it is now a possibility in many areas for districts to "go out of the business" and buy the service more cheaply from a full-time, large scale commercial supplier of the service. For example, cost analyses are beginning to show that it is or soon will be cheaper to franchise the food service, or to contract for transportation with a bus company.

This is now happening in the noninstructional areas of school operations. The seventies could well be the decade in which this occurs in the instructional areas of school operations as well.

If a school system needs a foreign language taught to some of its students, for example, it may be that it can be done by an agency which is devoted entirely to the teaching of foreign languages at the same level of student performance for less of an expenditure per pupil hour than can be done "in-house." A carefully contracted agreement could include incentive clauses based on time, or performance, or both. If this were to occur, then the school district begins to take on some of the characteristics of a conglomerate.

This form of district endeavor may well become commonplace in the seventies, and the General Subcommittee could be helpful at this point by preventing any pilot project of this nature from being scuttled or written out of an appropriations bill. Such an approach to education does indeed hold some interesting potential for industrial-educational involvement on a large scale. One might foresee a school district contracting for a number of its educational services to "learning corporations" on a bid basis with educational accounting and student performance related directly to the fee paid.

Let me *summarize* with a few observations. In 1959 words such as "unionism," "negotiations," "Federal program," "militancy," "minimum income level," "student unrest," "civil disobedience," etc., were either unheard of or only on the horizon in education. They are all words new to the sixties. Each represents a phenomenon to which we have become somewhat accustomed. We in education may not as yet be comfortable with all of these words and the events or mental images each prompts, but we are moving toward adjustment.

Words such as "performance," "effectiveness," "accountability," "input," "conglomerate," etc., may hold a similar relationship to the seventies as the words mentioned above held to the sixties. If this be the case, then the seventies hold promise for some fundamental advances.

There is one word which was not new to the sixties. "Desegregation" was a word a full half-decade old in 1959. On its fifteenth anniversary it still remains the unfinished business we must carry over on the books into the seventies, from the sixties where it was carried over from the fifties. It cannot be on the ledger in 1979.

POVERTY VERSUS EQUALITY OF OPPORTUNITY*

J. McV. Hunt, Professor of Psychology and of Education, University of Illinois, Urbana, Ill.

Poverty is coming to be viewed in a new perspective. As recently as two decades ago, those persistently poor were typically seen as just naturally inept or stupid, lazy, and irresponsible. The children of those persistently poor were observed already to manifest a combina-

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tion of such characteristics when they entered school at only five or six years of age. On tests of intelligence, they had low IQ's (see Anastasi, 1958). Once in school, they gave poor attention to school tasks and to teachers' utterances. Moreover, they were often hard to control. In short, these children already manifested the signs of that incompetence characterizing their parents. Because these various indicators of incompetence were already present so early in the children of the poor, they were presumed to be inherited from their inept, stupid, lazy, and irresponsible parents.

In a sense these indicators of incompetence are inherited, but less through the genes of these children than through their interaction with their parents and with the circumstances of their poverty. Our conception of the role of the circumstances which a child encounters, especially during infancy and very early childhood, plays in the development of intelligence, of motivation, and of those values and patterns of conduct required for an organized society has been changing. This newly recognized role of circumstances of early psychological development has obvious implications for our beliefs about the basis for the deficits in intellectual skills and in motivation so prevalent among the children of the poor when they start to school. It now appears very likely that these children arrive at the public school with their various defects in large part because they have not had the opportunities required to develop the linguistic and numeric skills basic to normal performance on intelligence tests, or the motivational systems required for attention to teacher talk, or the habits of conduct required for teacher control and approval. Let me summarize the background of the problem.

HISTORICAL BACKGROUND

When our forefathers declared it to be self-evident that "all men are created equal," they uttered biological and psychological nonsense. But they were not thinking in terms either biological or psychological. Their concerns were ethical and political. In these latter terms, that equality of opportunity, which is the essence of their declaration, is the basic foundation for a democratic society.

So long as biological and behavioral development were believed to be preprogrammed, and intelligence was believed to be fixed by each individual's heredity, those persistently poor of the bottom socioeconomic class could readily be accepted as just naturally inept, lazy, and irresponsible. In the light of these too-widely-held beliefs, any improvements in this class of human beings had to look entirely to eugenics, and it was Francis Galton who founded the eugenic movement (see Hunt, 1961, Chapter 2). So long as the beliefs in predetermined development and fixed intelligence prevail, no reason existed to extend the ethical implications of the equality of opportunity to those condemned by the accident of their birth to develop in the circumstances of poverty and the child-rearing practices of parents in poverty.

These beliefs in predetermined development and fixed intelligence never went unquestioned. They were questioned by those sociologists who took their lead from the thought and writings of Lester F. Ward (1883). They were also questioned, and ironically, by Alfred Binet

(1909) whose tests became standard in the intelligence testing movement whose American leaders came largely through the influence of Sir Francis Galton and G. Stanley Hall to consider intelligence to be essentially fixed. Finally, they were called into question by Freud (1905), at least for the origin of emotional and motivational characteristics. Nevertheless, these beliefs in predetermined development and fixed intelligence dominated thought among a preponderant majority of the leaders of psychology and education and among a major share of the intellectual leaders of America from the latter days of the 19th century debates over Darwin's theory of evolution through World War II.

Even before World War II, bits of suggestive evidence dissonant with these beliefs began to appear, but the beliefs were so firmly held that the leaders of educational and psychological thought made every effort to discredit the dissonant evidence. The evidence in a study by Skeels and Dye (1939) is an example. In this study, every one of a group of 13 retarded infants, who were transferred from an orphanage to a women's ward in an Iowa State School for the Mentally Retarded where the women doted on them, showed gains in IQ ranging from seven to 58 points, during periods ranging from six to 52 months. Another group of 12 somewhat less retarded infants who were allowed to remain in the orphanage, showed decreases in IQ varying from eight to 45 points over periods ranging from 20 to 43 months. These findings met with derisive skepticism (Goodenough, 1939) and methodological criticism (McNemar, 1940) which deprived them of the suggestive, corrective value that they deserved to have. But this state of affairs was only temporary. After World War II, evidence clearly dissonant with these beliefs in preprogrammed development and fixed intelligence began accumulating. Let me synopsize at least the nature of these various kinds of evidence.

EVIDENCE DISSONANT WITH THE BELIEFS IN PREPROGRAMMED DEVELOPMENT AND FIXED INTELLIGENCE

First, within genetics, the work of Johannsen (1909) has been given recognition equal to that of Mendel (1965). Johannsen distinguished the observable *phenotype* from the *genotype*, which consists of the genes comprising an individual's hereditary constitution, and did the pioneering demonstrations that the phenotype is a product of the genotype's interactions with the circumstances encountered. These demonstrations served to correct the misinterpretation of Mendel's work in the view that observable, measurable characteristics are predetermined by heredity. Thus, when even the sexual anatomy of genotypic-male, snowpool mosquitoes have been shown to develop female parts when the eggs and larvae undergo their embryonic maturation in unusually high temperatures (Anderson & Horsfall, 1963; Horsfall, Anderson, & Brust, 1964), it becomes hardly surprising that the developmental quotients and intelligence quotients of infants or young children change markedly with the circumstances they encounter (see Jones, 1954). This concept of interactionism, deriving originally from Johannsen's work, has the important implication that children of different genotypes may need different kinds of circumstances to enable them to achieve their potential of competence.

Second, studies of the effects of dietary deficiency and emotional stress in both animal and human females at the time of conception and during gestation have yielded evidence suggesting that these conditions tend to produce disorders of pregnancy and premature delivery. These disorders of pregnancy hamper the embryonic and fetal development of infant organisms and result in what Pasamanick and Knoblock (1960) term minimal brain damage (see also Bell, 1965, pp. 4–6).

Third, the theorizing of Donald Hebb (1949) has inspired a variety of investigations which indicate that the problem-solving ability of an animal is far from fixed by their genotype. Hebb (1947) himself and such colleagues as Forgays and Forgays (1952), Forgus (1955a, 1955b) and Hymovitch (1952) have found that rats reared under various kinds of enriched perceptual circumstances are better solvers of maze problems as adults than litter-mates reared in opaque laboratory cages. Moreover, Thompson and Herron (1954) have found superiority in the problem-solving ability in pet-reared Scottie dogs over their degree of superiority that Hebb (1947) found for pet-reared rats over cage-reared litter-mates that is, if anything, more pronounced than the their cage-reared litter-mates. Such evidence, of which this is but a sample, suggests that the importance of early experience for later problem-solving ability probably increases up the evolutionary scale. Against this suggestion, perhaps, is the evidence from studies of the effects of rearing monkeys in solitude (Angermeier, Phelps, & Reynolds, 1967; Griffin & Harlow, 1966). Such monkeys are deficient in social skills, but they acquire the learning set to use pattern cues as readily as monkeys reared by their mothers. Whether the number of trials required to use a pattern cue instead of a place cue should be the criterion of problem-solving ability is a matter of both definition and investigation. It is quite conceivable that such a learning set requires the acquisition of no others below it in the hypothetical hierarchy of abilities constituting intelligence whereas the detour tests (Hebb & Williams, 1946) do require rats and dogs to learn subordinate abilities if they are to solve the detour problems readily. This question of the operational criteria for problem-solving ability in animal subjects calls for much more careful analysis than it has so far received.

Fourth, at least three different lines of investigation indicate that encounters with circumstances appear to influence the maturation of new anatomy as well as the development of behavior. Studies of the histological and histochemical effects of rearing young animals in the dark has shown that glial cells and retinal-ganglion cells fail to mature properly and that the production of ribonucleic acid (RNA) is deficient in chimpanzees (Rasch, Swift, Riesen, & Chow, 1961), in kittens (Weiskrantz, 1958), in rabbits (Brattgård, 1952), and rats (Liberman, 1962) reared in darkness. Conversely, evidence of increased growth in cortical tissue and of higher total acetylcholinesterase activity of the cortex has been found in rats reared in complex environments than in rats reared in the simpler environments of laboratory cages (Altman & Das, 1964; Bennett, Diamond, Krech, & Rosenzweig, 1964). Some of these studies have stemmed from the theorizing of Donald Hebb (Rasch, Swift, Riesen, & Chow, 1961). Those of Bennett, Diamond, Krech, and Rosenzweig (1964) have shown with the increased complexity of the environment not only the anatomical and biochemical changes in the brain but also increased ability to solve maze problems. The study of Brattgård (1952) stems from the biochemical theorizing of Hydén (1960), and the work of Hydén and Egyhazi (1962) have also indicated increased production of ribonucleic acid in brain tissue following learning which contrasts with the depression of RNA production in the retinae of rabbits reared in the dark.

Fifth, bits of evidence uncovered by various investigators indicate that the rate of psychological development in human infants is far more plastic than has been believed. White and Held (1966), for instance, have reduced the median ages of the appearance in two landmarks in the development of eye-hand coordination very substantially. Fisted swiping at objects presented to view has appeared at median ages of 72 days, 75 days, and 55 days, depending upon circumstances. Top-level reaching for objects presented to view, that is to say—reaching, with the hand shaped in anticipation for grasping, has appeared at median ages of 145 days, 105 days, and 87 days. They achieved this hastening by means of a program of enrichment which included handling the infants some 20 minutes a day, turning them on their stomachs for 15 minutes after each of three feedings a day, and arranging a complex stabile for the infants to view and to feel with their hands. Inasmuch as the difference between 105 days and 87 days for top-level reaching involved a change in the opportunity for looking with no change in other enrichments, the looking is probably the most important of the three elements in the enrichment program. In the familiar terms of the IQ ratio, this change from 145 days to 87 days in the median age for top-level reaching is an increase of the order of 67 points. In my own laboratory, David Greenberg, Ina Uzgiris, and I (1968) have found that infant children of middle-class parents in Champaign-Urbana who were provided with an opportunity for looking at a stabile hung over the cribs, beginning at five weeks of age, manifested the blink response to an object rapidly approaching their eyes at an average age of seven weeks, while other comparable infants, whose mothers agreed not to put anything over their cribs, failed to show this blink-response until an average age of 10.4 weeks. In the familiar terms of the IQ ratio, this is an increase of the order of 48 points. It should be understood that hastening the appearance of eye-hand coordination and the blink-response can have in themselves hardly any permanent significance for the development of competence, but these findings do illustrate the plasticity of that early development in human infants once considered to be predetermined in rate.

Sixth, a variety of investigations have yielded evidence that the longer organisms live under any given kind of circumstances, whether they foster or hamper development, the harder it is to alter the influence of these circumstances on either anatomy or behavior (Hunt, 1961, p. 321ff, Ch. 6.). Moreover, Bloom (1964) has assembled evidence from longitudinal studies of the development of abilities, attitudes, interests, and values to show that the stability of measures of these various human characteristics increases substantially with age. For tested intelligence, for instance, about half the variance in IQs at age 17 is accounted for by test scores given at age four. The plasticity of infancy diminishes rapidly as children grow older. Thus, the longer children live under the stultifying conditions of poverty, the harder it must inevitably be to overcome the deficit resulting.

Seventh, a new hierarchical conception of intelligence is replacing that of intelligence as a fixed dimension of individual persons (See Ch. 3). This hierarchical conception has been proposed on the basis of such radically differing kinds of evidence as the developmental observations of Piaget (1936), the findings of factor analysis by Ferguson (1954, 1956) and by Humphreys (1959, 1962b), and the investigations of adult problem-solving by Gagné (1966) and Gagné and Paradise (1961). In the light of this new hierarchical conception of intelligence, such increases in the rate of development as are evidenced by hastening the appearance of eye-hand coordinations and the blink-response suggest that the effects of the circumstances encountered may be cumulative. In this hierarchical conception, such simple sensorimotor organizations become incorporated in more complex organizations through a process of coordination. When such simple sensorimotor organizations are hastened, they then become available for coordination with others into more complex organizations at an earlier age, and these coordinations of coordinations then become available for still more complex organizations at an earlier age. We must investigate this theoretical suggestion of accumulative effect from circumstances that continuously interest and challenge infants and very young children.

Eighth, investigations in the domain of social trends in intelligence indicate increases in tested intelligence where, from the fact that about 60% of each new generation comes from that bottom third of the population in socio-economic educational status with a mean IQ of about 85, (see Anastasi, 1958, p. 515), decreases were predicted. Some 13 years after Cattell (1937) estimated a drop of a little over three points of IQ for each generation, or of about one point a decade, he published a comparison of the tested intelligence of 10-year-olds living in the city of Leicester in 1949 with that of those living there in 1936 and found an increase in the mean IQ of 1.28 points (Cattell, 1950). Other studies have disconfirmed the predicted drop in IQ with increases substantially larger. One of children from a sample of families tested before and a decade after the social changes instituted by the Tennessee Valley Authority uncovered a mean increase of 10 points (Wheeler, 1942). One of students in a sample of Minnesota high schools, tested first in the 1920's and again in the 1940's, uncovered gains in means for the various high schools ranging between 10 and 15 points of IQ (Finch, 1946). One of children in sample schools in Honolulu, first tested in 1924 and again in 1938, uncovered an increase in the mean IQ of 20 points (Smith, 1942). Similar evidence of increases has come from comparing the test performances of soldiers of World War I with those of soldiers of World War II on the military tests of intelligence (Tuddenham, 1948). Perhaps the most dramatic evidence comes from Puerto Rico where Albizu-Miranda (1966) has found children of seven and eight who have enjoyed during their early development some of the advantages of the prosperity brought by the new industrialization, with mental ages as high or higher than those of their parents, who had been reared in rural poverty before industrialization came to Puerto Rico, and who were tested at the same time as their children.

Finally, recent findings of Wayne Dennis (1966) suggest that the variations in tested intelligence deriving from the circumstances under which infants and young children are reared can make more difference than has been imagined. Dennis has given Goodenough's (1926) Draw-a-Man Test to groups of typical children, aged from six to eight years, from some 50 cultures over the world. Goodenough proposed this test to be culture free, but this assumption was called into question when typical Hopi Indian children turned up with a mean IQ of 124 (Dennis, 1942). This mean IQ of 124 approximates the means for samples of children of the suburbs in both America and England. This same mean holds for samples of children growing up in Japanese fishing villages (Dennis, 1966). At the other end of the distribution, Dennis (1966) finds nomadic Bedouin children with an average IQ of 52. Here, then, is a range of approximately 70 points in mean IQ for typical groups of children from these various cultures over the world. It is extremely unlikely that such a range can have hereditary determination. The most obvious correlate is degree of contact with pictorial art. Hopi children, like the children growing up in Japanese fishing villages, and like the children of the suburbs in both America and Britain, have continual contact with pictorial art. On the other hand, in the Moslem Arabic countries where religion prohibits graven images, the children have relatively little contact with pictorial arts, and Draw-a-Man IQs are low. But even among Arabic subcultures the variation is large. Thus, the nomadic Bedouin children and the Shilluk children of the Sudan, with almost no contact, have a mean Draw-a-Man IQ of 52 and 53. On the other hand, the children of Lebanon, with a maximal of contact with Western culture and with the pictorial arts inherent in Western culture have a mean Draw-a-Man IQ of 98. Thus the range of mean IQs even among samples of Arab children is of the order of 45 points. Because the complex of abilities assessed with the Draw-a-Man Test is probably simpler than the complex of abilities assessed with the Stanford-Binet or the Wechsler Children's Scale, it may well be easier to modify the Draw-a-Man IQ by means of contact with pictorial arts than it would be to modify in the same degree IQs from these other tests through encounters with variations in circumstances. Nevertheless, this finding by Dennis suggests that variations in circumstances may alter the intelligence underlying competence to a degree hitherto not suspected.

From the standpoint of longitudinal prediction, clearly the IQ of a child based on a test given at a very early age cannot tell you what his performance on such tests will be later without solid knowledge of the circumstances under which he is to live. In the light of these various kinds of evidence, the beliefs in predetermined development, in fixed intelligence are hardly any longer tenable.

ETHICAL IMPLICATIONS

Now, if the genotype guarantees neither the rate nor the course of psychological development, and if circumstances can have effects of such magnitude on the outcome level of competence, the accident of being born to parents who have themselves grown up under the conditions of persistent poverty may well be, and, indeed must be, depriving the children of poverty of the opportunity to develop those intellectual abilities and the motivation which exists within their hereditary potential. In the light of such considerations, the ethical and political doctrine of equal opportunity takes on new implications and creates new ethical obligations for our political systems. Such children, by the accident of their birth, become deprived of the opportunity to develop those intellectual abilities and those motivational systems required for coping successfully with our schools. As a consequence, they are deprived, in turn, of the opportunity to participate in the mainstream of our society and to partake of the benefits of our technological advances. If we take seriously the declaration of our forefathers that equality of opportunity is a birthright of all, we are ethically bound to try to do everything in our power to equalize the opportunity of children born to parents in poverty. The new evidence makes of early childhood education an ethical matter and a political issue.

IMPLICATIONS FOR TWO CHALLENGES OF OUR DAY

Two major challenges of our day emphasize the ethical importance of this issue. One of them is our advancing technology. The other is the recognition of the evils of racial segregation in the Supreme Court decision of 1954 which demands desegregation.

These two challenges are intertwined. The consequences of our advancing technology have probably been most evident during the past few years in agriculture. With the industrial revolution coming to the farms, it is said that more people have moved from the farms to the cities during the past 20 years than moved from the farms to the cities since Europeans came to North America until World War II. Most of those moving have been marginal farmers. They have been the rural poor. A large share of them have been black share-croppers from the South. They have lacked both money and skills, and the new machines have destroyed their livelihood and their way of life. Because they have typically heard of both more economic opportunities and bigger welfare allowances in the North, they have flocked to the slums in the centers of our cities. Here is a major source of the dire contemporary plight of our inner cities. Here is also one of the most important instances wherein our advancing technology is reducing, and reducing drastically, the economic opportunities for those with limited competence. At the very same time, our advancing technology is markedly increasing the opportunities of those with high-level competence. Back in the 1930's, even those with newly acquired doctorates were a drug on the market. Now the problem not only for those with new Ph.D. degrees, but also for those with new baccalaureate degrees and with new certificates from courses for mechanical, secretarial, and trade skills, is one of choice. Openings abound for those with technical skills at all educational levels from high-school graduation up.

The intertwining of these challenges from our advancing technology and from the Supreme Court decision of 1954 derives from the fact that a major share of our black people have been kept persistently poor ever since they were released from the legal bondage of slavery. Desegregation and integration are necessities for that equality of opportunity for all men that our forefathers declared to be a birthright. But desegregation of schools is not enough. Moreover, in the absence of compensatory opportunities for the children of the very poor, it may actually be harmful.

Let me explain. While children build their concepts of themselves in part from the way they are viewed and talked about by the adults with whom they come in contact, they build a major share of their hopes for themselves by comparing their own achievements and performances with the achievements and performances of other children with whom they interact and compete (Diggory, 1966). When children aged five and six without the experiences that give perceptual and manipulative familiarity with the things and places that are taken for granted by teachers and with very limited ability to understand verbal directions, numbers, and rules of conduct are put together in our traditionally competitive schools with children who have had these experiences and have considerably higher levels of these abilities, no one has to tell the children of the poor that they are failing. Any light of hope they may have brought to the school is all too quickly dimmed or extinguished by their sense of failure from their encounters with children of another world who are obviously, to them, their betters. If frustration instigates in aggressive behavior, as we psychologists have long contended (Dollard, *et al.*, 1939), it is hardly surprising that aggressive behavior becomes common among these children of the poor when they enter such schools. As their own hopes become extinguished, neither is it surprising that they tend to drop out of school at the earliest opportunity. Until something is done to change the traditional use of the lock-step and of competition in our schools, merely putting those culturally deprived, be they white or black, together with those culturally privileged can only make matters worse for those deprived. Where most of those culturally deprived are black, desegregation may actually exacerbate their problem.

OPPORTUNITIES LACKING FOR CHILDREN OF THE POOR

Ever since Francis Galton (1869) published his studies of hereditary genius, and perhaps long before, the existence of a substantial positive correlation between socio-economic status and competence has been abundantly clear. Evidence continuing to confirm this association has continued to accumulate. The soldiers of World War I from the professional classes averaged substantially higher scores on the Army Alpha than did skilled manual workers, and the latter averaged higher scores than did the unskilled (Fryer, 1922). In World War II, the Army General Classification Test brought out the same relationship. Accountants and teachers had average scores in the 120s while such laboring groups as miners and farm workers had average scores in the upper 80s. Moreover, when the children served in the standardization of the revision of the Stanford-Binet were classified according to parental occupation, the preschool children of semi-professional and professional families had mean IQs between 110 and 115 while those preschool children from the families of day laborers had an average IQ of only approximately 94 (McNemar, 1942). Children of both rural and urban poverty have typically shown mean IQs substantially lower than those of day laborers. Sherman & Key (1932) have found children living in the hollows of the Blue Ridge Mountains averaging in the low 80s at age 6–8 years and decreasing with age so that those aged 10–12 were averaging in the 50s and 60s. Similarly, Gordon (1923) found the English canal-boat children with mean IQs of about 90 at age 4–6 and decreasing to a mean of about 60 at age 12–22 years. Klineberg (1935) found the average IQs of various samples of black youths from the poverty of the southern States before World War II to be even lower than 60. It is from such backgrounds that new poor of our urban centers of the 1960s have come. Their children do poorly in school (Bloom, Davis & Hess, 1965).

Until recently, Galton's causal interpretation has been the one most commonly accepted. That lack of competence found in those of low socio-economic status has been attributed to their lack of hereditary potential. In the light of this traditional interpretation, much of the evidence already described in the earlier papers of this collection is highly puzzling. More puzzling evidence appears in a recent study by Lesser, Fifer, and Clark (1965). These investigators tested a large group of first-grade children who were divided according to both socio-economic and ethnic background. They compared the subgroups both in terms of average scores across the several kinds of tests and in terms of patterns of scores in the several kind of test. Social class was associated chiefly with average score across all tests, the higher the socio-economic class the higher the general level of ability as measured by the test. Ethnic background was associated, however, with the pattern of scores on the several tests. Chinese, Jewish, Negro, and Puerto Rican children differed substantially in terms of which of the several tests they showed high scores and which they showed low scores. These ethnic differences in pattern were consistent, moreover, across levels of socio-economic status. Thus, even though the children of low socio-economic status from each ethnic background had average scores for all the various tests below the average scores for those of higher socio-economic status from the same ethnic background, lower-class Jewish children manifested the same pattern of abilities as did higher-class Jewish children, and lower-class Chinese children showed the same pattern of higher-class Chinese children, etc. Unless one presumes that these ethnic patterns are based on hereditary patterns of potential in these cultural and racial groups, it is hard to explain such variations in pattern without appealing to cultural differences in the circumstances provided for developing children. The question is: are there variations in circumstances and in opportunities associated with poverty which could account for the generally low levels of tested abilities so commonly found in children of poverty from all cultural backgrounds?

Basic Biological Requirements

First of all, many of the children of the poor lack even the basic requirements for their biological well-being and growth. Nutritional deficiencies and emotional stress in mothers of poverty at about the time of conception and during pregnancy may well hamper the development of their infants in utero during the embryonic and fetal phases (Cravioto, 1964; Pasamanick, 1962). McDonald (1966) has reported the incidents of chronic health problems as almost four times as high among the families of the poor (incomes under $2,000) as they are among families with average or higher incomes (from $7,000 up). These nutritional differences sometimes lead to strange cravings. Liebow (1967) has reported that pregnant women of the poor sometimes crave starch and some have been known to eat as many as four boxes of Argo Laundry starch a day. Inadequate diets, especially for pregnant women, are a likely cause of higher infant mortality, prematurity, and birth defects among the poor. When the fetus survives birth, the result is all too commonly an infant of high vulnerability (Pasamanick, 1962). The later fate of these infants of high vulnerability is, however, in considerable measure a function of the later circumstances that they encounter during the first months and years after birth (Lois Murphy, 1961, 1968). Unfortunately, in these families of poverty, these vulnerable infants typically encounter circumstances which further compound their vulnerability and tendency to defect.

Cognitive Skills

These children of poverty lack, second, many of the opportunities to develop cognitive skills. They lack especially the circumstances which foster linguistic skills, numerical skills, and the syntax of standard language in which the abstractions of cognitive content are couched.

During their first year, these children of poverty are often reared in crowded quarters where loud voices and the blare of a speaker on television or the radio are jumbled continuously. At a time when I thought amount of stimulation itself might help to foster psychological development, I thought this might possibly be to the advantage of the children of the poor during their first year (see Chapter 1). On the other hand, as Clark and Richards (1966) have found, the children of the poor do a poorer job of discriminating vocal patterns of sound than do children of the middle class. In this connection, Cynthia Deutsch (1964) has suggested some similar findings that children of the poor learn to "tune out" the noises they hear. I am inclined to agree that an attentional factor is involved, but I now suspect that it is not an active "tuning-out." Rather, I suspect that continual exposure to loud, vocal sounds sequentially unassociated with such significant events as the smiling face of a mother, being picked up, and/or being fed, leads to an habituation of the arousal aspect of the orienting response to loud vocal inputs such as that demonstrated experimentally by Sharpless and Jasper (1956) in cats. Maltzman and Raskin (1965) have found that kinds of input for which the orienting response is weak or absent served poorly as conditional stimuli in classical conditioning and as cure in more complex learning tasks. This finding strongly suggests that habituation to loud vocalization in infancy may serve indefinitely to damp the capacity of infants of poverty so reared to attend to vocalizations, to discriminate among them, and thereby to learn language efficiently.

But these infants of the poor lack several other kinds of opportunities to acquire these cognitive skills (McCandless, 1952). Their parents typically spend less time in verbal interaction with them than do the parents of the middle class (Keller, 1963; Milner, 1951). When they are communicating with their children, these parents of poverty verbalize in sequences substantially shorter than those of middle-class parents (Cynthia Deutsch, 1964). It is this relative paucity and impoverishment of communication between mothers of poverty and their children, as compared with mothers of the middle class and their children, which Hess and Shipman (1965) have considered to be at the heart of the lack of language and number skills in children of poverty.

What these parents of poverty talk about may be another factor. Their talk may be rich in emotional content and in the similies of such content, but highly lacking in what calls upon the child to abstract such aspects of objects as their color, their shape, and their size in relation to other objects. What these parents of the poor talk about is also lacking in such conceptual constructions as prepositional relationships, casual explanations, and concepts of space, time, and justice (my own unsystematic observations combined with the reports of Deutsch, 1965; and Hess & Shipman, 1965). The parents of the slums not only talk less with their children than do parents of the middle-class, but they seldom undertake to discuss with their children matters which prompt them to discern various kinds of relationships among things and people, or to use language to describe these various relationships, and to communicate them. Similarly, these parents seldom discuss with their children the whys of decisions or the outcomes of various courses of action. Such elements of parent-child communication are components of the warm democratic atmospheres found by Baldwin, Kalhorn, and Breese (1945) to be associated with rising IQs (see Baldwin, 1955, p. 523). On the contrary, when the children of the poor ask questions or talk out, their parents typically respond with "shut up" and with no reason why (Bronfenbrenner, 1958; Chilman, 1965). Incidentally, there is a world of difference between a simple "shut up," and a statement such as: "shut up, can't you see I'm talking on the telephone." In view of such considerations, it is hardly surprising that recognition vocabulary, vocabulary of use, length of remarks, and complexity of sentence forms in the children of poverty fall substantially below the norms for the tests of these abilities (Jones, 1966).

Finally, parents of the slums have seldom the learned syntax of the standard language, so they serve as poor imitative models for their children (Bernstein, 1960, 1961; John & Goldstein, 1964). Thus, the children of poverty come to school age all too often after having become habituated to loud vocal sounds as meaningless aspects of their circumstances, with little environmental pressure to note and to abstract such characteristics as the color, shape, and size of objects and persons, with little opportunity to hear extended conversations directed toward themselves, with little call upon themselves to formulate the characteristics of objects and relationships among them and persons in language, with little opportunity to discuss the why of decisions and the outcome of various kinds of action, and with poor models of syntax for that discussion which does occur.

Some students of linguistics may quarrel with some of these statements in the preceding paragraphs (see Cazden, 1968). Some contend that the language of poor children of the slums is as complex syntactically as that of children in the middle class. I suspect that these students of linguistics confuse their concepts of syntactical complexity, about which there is genuine disagreement, with communication. The evidence for the statements I have made in the preceding paragraphs is becoming increasingly systematic and compelling. Moreover, a still quite incomplete study by Schoggen and Schoggen (1968) of the Demonstration and Research Center for Early Education at the George Peabody College for Teachers in Nashville, Tennessee, promises to be especially illuminating. The Schoggens have selected three samples of eight families, one of professional people, one of the rural poor, and one of the urban poor. Each of these 24 families contains a three-year-old who is the target child of the study. Investigator-recorders, after becoming very well acquainted with these families, record all the instances of social interaction, physical and verbal, initiated by the adults and the older children of the family with the target child in such functionally equivalent situations as meal time, bed time, and the time when the older children return from school. These units of interaction they term "environmental force units." In the sample of data available, not only do the adults and older children of the professional families initiate more than twice as many such units with their respective three-year-olds as do the adults and older children of both the urban and rural poor families (40 versus 17 and 18 respectively), but what the Schoggens call "the quality of interaction" also differs radically. Although restraining commands like "stop that," or "don't do that," in one form or another are common to all families, they constitute much the larger share of the total of the "environmental force units" to be found in the families of the rural and urban poor than in those of the professional families. In the families of professional status, a substantial portion of these "environmental force units" call upon the child to discern various kinds of relationships among things and people and to use his own language to communicate his impressions (personal communication). This still unfinished investigation is bringing out more clearly than any other of which I know the tremendous difference of the ecology of children of poverty from the ecology of children growing up in the professional class. The small samples of families concerned in this study probably represent fairly marked extremes. One would probably find a continuum for any of the measures used existing between the persistent poor, on the one hand, and professionals with maximum concern for the early development of their young.

Motivational Opportunities

The children of poverty lack, third, a variety of opportunities in which to develop the motivational systems inherent in competence. Children must learn to take initiative and to control their own impulses and actions, to postpone momentary gratification in the hope of more enduring forms of gratification in the future, and to sustain effort in order to complete tasks once started. In each of these aspects of motivation, the children of the poor suffer disadvantages as compared with most children of middle-class background.

Seldom do the children of the poor have an adequate opportunity to learn the taking of initiative and self-control. To the troubled parents of the slums, a good child is too often a quiet child who does not bother them. It is not that these mothers of poverty fail to love their children. They often show their affection by sending them off to school overdressed when the overdressing calls for large amounts of effort at washing and ironing (Gray & Klaus, 1963). With this overdressing, however, goes the command, "you be good, keep clean, and do like the teacher says." Since being "good" is defined as being quiet and inactive, such treatment hardly encourages the taking of initiative.

Seldom do the children of poverty have an opportunity to develop motivation directed toward future goals and toward social status. The parents of the slums have themselves seldom had an opportunity to learn such motivation (Bronfenbrenner, 1958; Chilman, 1965; Davis, 1948; Davis & Havighurst, 1946; Lewis, 1961, 1966). Their responses to their children's actions and efforts at communication tend to be dictated largely by their own immediate impulses and needs, not the child's. Since there is never enough of anything, and little hope that there ever will be enough of anything, the child is reinforced repeatedly for taking all he can get while he can get it. As a consequence, these children all too seldom develop far beyond the motivational status of infants who "want what they want when they want it." Rarely, except in the domain of fighting, does a child have an opportunity to gain much for acquiring skills. Thus, it is not surprising that children of the poor are found to prefer concrete rewards over more abstract reinforcement in the learning of laboratory tasks, while the children of the middle-class perform at a higher level and prefer the reinforcement of social approval (Terrel, Durkin, & Wiesley, 1959; Zigler & deLabry, 1962). The ecological conditions I have attempted to describe here also tend to explain the finding that children of poverty tend to prefer immediate reinforcement over delayed reinforcement even when the rewards obtained are palpably larger under the condition of delay whereas the children of middle-class and upper-class background prefer to wait for a larger but delayed reinforcement (Maitland, 1966; Mischel, 1961; Mischel & Metzner, 1962; Steen, 1966; Strauss, 1962). Such motivational preference for delayed gratification is typically found to be associated with not only the higher levels of socio-economic status, but with higher levels of intellectual functioning and with the absence of various conditions of family disorganization. Here again is evidence of the interrelatedness of the cognitive and motivational aspects of psychological development. Certainly there is little to gain for children of the slums in acquiring linguistic and numerical skills or even in working skills. Seldom do these children of poverty, moreover, see books and magazines or see their adult models reading them. Seldom do these children have an opportunity to see adults at work until they are already old enough to leave their neighborhood. Insofar as motivational systems permitting the delay of gratification depend upon the opportunities to imitate such activities and partake of the satisfactions they yield, the children of poverty lack the opportunities.

Persistence of effort toward the completion of tasks once started and a sense of inner control probably depend upon having had appropriately graded sequences of experiences (see Hunt, 1963a, p. 92–93). The sequence must probably begin with actions fairly consistently followed by the reinforcement from interesting feedback or events. This should probably then be followed by intermittent reinforcement (Humphreys, 1939) in which the infant or young child must persist in his effort to achieve the anticipated feedback of interest. It is likely that repeated encounters with the sense of effort associated with attaining the interesting feedback is the source of the sense of inner control which, at least introspectively, appears to underlie the feelings of responsibility. Slum parents seldom have any appreciation of such matters in the lives of their young. It is hardly surprising that this feeling of responsibility for what happens has been found to be considerably less evident in children of the poor than in children of middle-class background (Battle & Rotter, 1963). Moreover, in school-related tasks, boys from a background of poverty show much less persistence and much less evidence of a sense of control over the environment than the boys from the middle-class backgrounds. Also, children from backgrounds of poverty show a substantially greater discrepancy between actual performance on test-tasks and expressed levels of aspiration on these tasks than is found among children of the middle-class (Hieronymus, 1951; Keller, 1963).

Another line of evidence consonant with such an interpretation comes from investigations of that dimension of personal style which Kagan (1965) has called "impulsivity-reflectivity." Reflectivity involves a delay in response which appears to indicate attention to internal processess which require some time. The tendency for such reflective delay of response has been found to be positively correlated with measures of reading achievement and of intellectual ability, and also to be positively associated with socio-economic status (Kagan, 1965; Miller & Mumbauer, 1968).

Temporal conceptions and concerns for those of poverty differ from those with middle-class background. In a study by LeShan (1952) children of poverty were more concerned with matters in the present and less concerned with things of the future than children from the middle-class. This difference in temporal orientation can readily be understood from the differing social ecologies of poverty and middle-class status. In her ecological studies of slum homes, Maxine Schoggen (1967) has reported that the disorganization of these homes can best be characterized in terms of a lack of regular temporal and spatial organization. In the poorest homes, families seldom have regular times for meals. Regular meal times represent perhaps one of the most basic time-ordering circumstances through which a child can begin to develop his temporal concepts and an orientation toward the future. Thus, children of poverty lack not only opportunities to develop their cognitive skills, but they also lack opportunities to learn how to take initiative and to control their own actions, to relinquish immediate and concrete gratification for future abstract forms of gratification, to persist in their efforts to complete tasks once started, and to develop an orientation toward the future.

Opportunities to Develop Values and Standards of Conduct

The children of poverty lack, fourth, an opportunity to develop those values and standards of conduct which are required for participation in a technological society that operates constructively and relatively peacefully. As the troubled mothers of slum children respond to most of their requests with "shut up," and "leave me be," despite clear evidence of love for their children from such as the washing and ironing of clothes for school, these children turn very early to their peers for acceptance, companionship and human contact. With both parents absent from the home much of the time, moreover, the peer groups which form go unsupervised. Despite the affluence of America, hundreds of thousands of her children under five years of age spend a large share of each day with little or no adult supervision (Reid, 1966). From these unsupervised peer groups, then, the children of the poor learn their values and standards (Short & Strodtbeck, 1965). While still very young, they copy the preadolescents in various kinds of delinquent behavior (Childers, 1936). As preadolescents, they copy the adolescents of the local delinquent gangs. These gangs vary in the patterns of delinquency which they inculcate (Shaw, 1929). They vary in their structure (Short & Strodtbeck, 1965), and in the motivation involved for delinquent behavior. Where the delinquents of a past generation were typically motivated chiefly by a search for fun and excitement, the delinquencies of the contemporary gangs of the inner cities tend to be motivated more by frustration and protest (Cohen, 1955; Miller, 1958; Short & Strodtbeck, 1965). Although violence has always been a part of the inter-gang warfare, this new motivation has, if anything, increased the trend toward violence and increased also the level of hostility toward the mainstream of society. Thus, these slum-reared children of poverty have little chance to develop a respect for law, and especially for a law which they see as just, little chance to become concerned for the needs of people in general, and often little chance to develop even the habit of basic honesty. Such values and standards are no mere matters of middle-class taste. They are basic for the constructive and peaceful operation of any society.

Participation in the mainstream of our technological society probably calls also for a positive valuation of self and a tendency to prize achievement for its own sake. McClelland, *et al.*, (1953) have termed achievement motivation a "need for achievement (*n* achievement)." Various investigations have uncovered evidence that circumstances encountered within families during the early years help substantially to determine whether a child will have a high or a low need for achievement. In a study limited to mothers of the middle-class, Winterbottom (1958) has found that mothers of children with high need for achievement differ from mothers with low need for achievement by making more demands on their children before an age of eight years, by giving a higher evaluation to their children's accomplishments and providing more reward, by placing more restrictions on their children through age seven but allowing them greater freedom as they achieve the competence to meet the demands of various situations. Similarly, Rosen and d'Andrade (1959) have found that fathers of boys with a high need for achievement stress independence and tend to help their sons develop self-reliance by providing hints for the solution of problems rather than solving their sons' problems for them. These familial conditions for high need for achievement contrast sharply with the mother-teaching styles that Hess and Shipman (1965) have found in their Negro families of poverty. Buehr (1965) has reported that boys from this milieu with a high need for achievement manifest less of the dialect in their speech when they are in problem situations. Also, Strauss (1962) has found both need for achievement and ability to delay gratification lower in poor children than in those of middle-class backgrounds. Again, then, the evidence points to the fact that children of poverty have less in the way of opportunity to develop achievement motivation than do children of the middle class, and therefore the lack of achievement motivation in children found by Strauss (1962) should not be attributed simply to a lack of genotypic potential in these children.

Circumstances within families are not the only sources of these values concerning achievement and self. Circumstances within the school situation itself are of importance, for as Diggory (1966), already noted, has shown, children build a major share of their hopes and of their self-esteem from comparing their own performances with those of the other children with whom they interact and compete. It should be noted also that Atkinson and Reitman (1958) find that achievement motivation leads to excellence of performance chiefly when individuals expect that excellence of performance will produce a sense of pride in accomplishment. Such pride comes only with experiences of approval and pride for accomplishment on the part of those significant persons in the lives of children (Krugman, 1961). The children of poverty come into the school situation not only lacking both the linguistic and numerical skills presumed by school curricula, but also with little basis for an expectation that their efforts to achieve can yield even approval, let alone any sense of pride. As a consequence, it is to be expected that school children of poverty will manifest lower self-esteem than will their school mates of middle-class background, and this has been repeatedly found (Coleman, 1966; Keller, 1963; Long & Henderson, 1967). It is therefore no wonder that Battle and Rotter (1963) have found that boys from the slums fail to persist in school-related tasks and tend to feel that circumstances control their fate. Similarly, success in various school subjects is apparently no factor in the value which these children of poverty place upon these objects (Greenberg, Gerver, Chall, & Davidson, 1965). Thus, also, in risk-taking situations, where children with high need for achievement take moderate risks nicely geared to their previous levels of achievements (McClelland, 1958), children from the slums manifest little relationship between their expressed aspirations and their actual performances (Hieronymus, 1961; Keller, 1963). If these evidence-based considerations are accurate, they suggest that integrating the children of poverty in schools with children having had the advantages of middle-class background may compound the disadvantages of coming from poverty. When children of poverty are black while those of middle-class background are white, such considerations suggest that integration without compensatory education may exaggerate a tendency to give a low evaluation in general to all black people.

Summary

Despite the love that poor parents have for their children, the opportunities they provide for their children fail to foster those intellectual skills, those motives, those standards of conduct and values required for coping with the situations in most schools. The early experiences of these children of poverty serve chiefly to unfit them for adaptive coping with the schools. As they fail, it is hardly surprising that these children lose hope, become fed up with school, and drop out as soon as they can. Once out, they have extremely little opportunity to gain, in turn, that competence required for anything more than marginal employability in the marketplace of our highly technological economy. Marginal employability not only fails to bring the income required to buy the fruits of our advancing technology that would enable them to participate in the mainstream of our society, it perpetuates the habits, the thought, and the sense of inferiority that attempt to produce incompetence in the succeeding generation.[2]

WHAT TO DO

The question is: what to do? The answer must include several kinds of things. The first thing is to remove race completely as a barrier to employment at all levels for those who have the competence. Substantial legal strides have already been made toward this end, but we still have a long way to go in winning the hearts and wills of many people in all levels of our society toward the elimination of race as a factor in employment, and also in human relations. The second thing is to provide appropriate training and counseling for those with levels of competence such that they can be made employable in existing niches of industry. We have at least begun to do this kind of thing, but we have not done enough of it. The third thing is to create employment opportunities for those with levels of competence too low to make them employable for existing industrial openings. Probably government must be the employer of last resort for those with the lowest levels of competence. The fourth thing is to provide in some way incomes for poor families adequate to permit healthful diets regardless of the region of the country in which they live. It is highly important, moreover, to provide these incomes in such a way as to permit the members of these families to improve their own lot by their own efforts. The existing welfare situation, as both Moynihan (1965) and Rainwater (1966) have carefully documented, operates further to damage what little initiative individuals of poverty may have retained through the lack of opportunity to develop such motivation as they grew up, and also to damage family stability and to promote father absence. Even after such things are done, however, something more must be done if the children of parents from a background of persistent poverty are to have an opportunity to develop their potential competence which is more nearly equal to that of children born to parents of the middle class. This "something more" is an ethical imperative for that equality of opportunity which our forefathers considered to be the birthright of all.

At least two approaches exist to the "something more." One is to provide compensatory education for the children of the poor before they enter the public schools at age five or six—depending upon the existing laws of the various states. The second is to develop programs designed to prevent the incompetence which comes now with the accident of being born to parents of poverty. What helps these parents to improve the opportunities of their children to develop is likely also to improve the general quality of their own lives.

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[2] I am greatly indebted to a paper by James O. Miller (1968) for calling my attention to a number of the sources of evidence cited in the foregoing section. Some of these I had missed when I first wrote this paper in the spring of 1967. Others have failed to come to my attention since that time until I found them cited in his very interesting paper.

Compensatory Education

Compensatory education has already begun. Project Head Start was devised as a large scale effort to provide early education that would help to equalize the opportunities for children of the poor. The goal of this project is right, perfectly right. Moreover, the audacity of the immensity of the project has been extremely valuable in making known to a wide share of the populace the possibilities which exist. But having a proper goal and knowing immediately how to achieve that goal are highly different matters. While the behavioral sciences have uncovered evidence that makes the old beliefs in preprogrammed development and fixed intelligence no longer tenable, this evidence is still insufficient to tell us with precision how to provide effective compensatory educational opportunities.

The children who came to the first summer schools of Project Head Start typically had as teachers those who had been accustomed to teaching in the elementary grades. They had a curriculum taken largely from traditional nursery schools, even though it varied with the school concerned. Although the nursery school originated during the first decade of this century through efforts to help children of the poor in the work of Maria Montessori (1909) in Italy, and Margaret McMillan (1919) in the midlands of England, it was adapted in America chiefly for children of the middle class. The factors forcing this adaptation were several. Due to the prevalence of the notions of predetermined development and fixed intelligence, attempts to improve the intelligence of the children of the poor were regarded as nonsense. Moreover, the poor could not themselves pay for nursery schools. The more affluent parents of the middle class and of the upper-middle class could pay, so the nursery schools were adapted to their concerns. Froebel's (1826) kindergarten movement emphasized the potential of free play, and the influence of this movement appears to have combined with that of the child-study movement, instigated by G. Stanley Hall and his faith in recapitulation, to base the curriculum on the motivation for spontaneous activity and play. I must confess that my own predilections and prejudices are heartily in favor of this choice (see Hunt, 1965a). The earliest influence of the psychoanalytic movement in America stressed the importance of avoiding neurotic inhibitions. When this psychoanalytic influence coalesced with those streams of influence stemming from Froebel and G. Stanley Hall, American parents of the middle and upper classes began their "experiment" in laissez-faire child rearing. For many of the leaders of child development and early childhood education, one of the major purposes of the nursery school was to release young children from the excessively inhibitive restraints of their middle-class homes. Although a good many of the university-based nursery schools developed ingenious ways of getting children to learn readiness for academic skills through the process of spontaneous play, such practices were very far from universal. When the various kinds of curricula from the traditional nursery school were employed in the schools of Head Start, sometimes quite inexpertly by teachers accustomed to older children, the educational results were often far less compensatory than they might have been. I personally feared that an "oversell" of the gains to be expected in this state of affairs might result in an "overkill" of support for early childhood education, and that this overkill might result in a loss of the support from the public for an opportunity to show what existing evidence suggests could happen if those of us in the behavioral and educational sciences were allowed the time to learn how to do early childhood education properly and effectively (see Chapter 5).

So far as I can ascertain, none of the programs within Project Head Start has done any harm. Most of them have done considerable good, but some have apparently achieved considerably more in the way of compensatory education than others. Perhaps some of the greatest values of Head Start have been medical and social. A great many medical deficiencies were discovered in young children. They were then corrected early as a consequence of the medical component of the Head Start program. One major social value of this program consisted of involving the parents in these projects concerned with the education of their young children. This involvement of the parents has uncovered latent educational power which should, by all means, be harnessed.

Compensatory educational programs have existed outside of Project Head Start as well as within it. From the limited evidence derived from the evaluative studies of these various programs of compensatory education, both outside and within Head Start (see *e.g.*, Weikart, 1967), it appears that improvement in measures of intelligence and school readiness is related to the amount of deliberate effort to teach linguistic skills, rudimentary number skills, interest in school matters, and motivational concern for achievement. Gains of considerable magnitude, in several programs amounting to something approximating 30 points in IQ during the course of a year, have been reported in programs of compensatory education which differ in curriculum and in method of teaching substantially (see Chapter 6). But those regarded as experts in early child development and early childhood education still disagree on major issues. Since psychologists and educators considered it too soft-headed during the preceding half-century to be worthwhile even to try experimentally to increase the competence of children from any background, we shall have to do our experimenting now that the challenge is present. We shall have to try as best we know how. When we fail, we shall have to profit from our failures, and try again. We are now being asked for ready-made solutions that we do not have. We can provide these needed solutions only through an extended program of basic research and educational development. The basic research should be directed toward better understanding of those factors influencing psychological development in all its aspects: intellect, motivation, emotional stability, and values. Those innovations which show promise we must evaluate carefully for effectiveness. Those innovations which prove to be effective we must disseminate vigorously. By disseminate, I mean that we must actively help the officials and teachers of Head Start and the officials and teachers of our public schools to implement them widely in practice.

Preventing the Development of Incompetence

Compensatory education even for children who have spent the first four years of their lives under the stultifying effects of poverty is in essence a remedial rather than a preventive process. Moreover, it is highly expensive. It is expensive in the first place because at least one teacher or teacher-aide is required for about every five pupils if the teaching is to be effective. It is expensive, moreover, because even at best it may be too little and too late to enable a good many of the children of the poor to develop their potential sufficiently to succeed in the public schools and later to participate in the mainstream of our society so as to enjoy the benefits of our technology. A way must be found, I believe, to intervene during the first four years of the lives of these children in order to prevent that retardation in the development of their competence which I have already described. But how do we do it effectively?

Parents, at least potentially, should be both the least expensive and the best teachers of their own children during these earliest years. In view of this consideration, various Federal agencies have spent, to my knowledge, of the order of two million dollars on projects wherein psycho-therapy-like approaches have been used with parents by social workers, clinical psychologists, and psychiatrists. From the evidence I have seen, but which I cannot at this writing document with references, the children of these parents have gained nothing from these attempts to intervene by means of the professional talk involved in such approaches, be the relationships dyadic or group. On the other hand, when parents, and especially mothers, are provided with an opportunity to observe the behavior of their children with skilled teachers, and with the opportunity to discuss the relation of this behavior to the skills of the teachers, there are evidences of imitative change in the behavior of the mothers which are highly hopeful. These statements can be documented in the findings of several pioneer programs.

In perhaps the first of these pioneering examples of such studies, Rupert Klaus and Susan Gray (1968) and their colleagues associated with the "Early Training Project" at the George Peabody College for Teachers in Nashville, Tennessee, developed a special summer nursery-school for four-year-old children who had suffered the disadvantages of poverty. The curriculum of this school aimed to teach the language and number skills along with the attitudes and motives required to cope with the curriculum of existing elementary schools. In addition, home visitors brought each mother to the nursery school where she could see for herself not only what the teachers were doing with her child and those of her neighbors, but also the results in the behavior of her own child and of the others familiar to her. The home visitors, who were certified teachers with a background making them well acquainted with the views and attitudes of the mothers, interpreted what the teachers were doing and why in language that these mothers could readily understand. Through this process, these mothers got not only correctives for their implicit theories of child rearing, but they got to see approaches alternative to their own with the behavioral results of these alternative approaches in familiar children. Thus, one child, with a frequent need for urination that produced obvious restlessness and inattention, was simply taken out of the room and to the toilet frequently. One visiting mother, who held the implicit theory that punishment is what makes children good, presumed that he was, of course, being spanked while he was out of the room. Only after several observations of his trip to the toilet was she finally convinced that it was merely an opportunity to urinate rather than getting spanked that changed his behavior in the classroom.

The home visitors in this project also related the teachers' work to what each mother did with her children at home. During the periods between the summer sessions of the nursery school (September to May), a home visitor saw each mother in the two classes of twenty children every week and undertook to demonstrate for her such matters as how to read a story with enthusiasm, how to reinforce two-year-old infants for acquiring such new skills as finding new ways to cope with the problem of getting dressed, how to talk with children about such homely operations as peeling potatoes while in the process, how to prepare materials that would help the children learn about the seasons and what happens to animals and plants with the seasons. These home visitors also let each mother discuss her own problems and helped her to find ways of coping with them. The evidence of effectiveness in this study comes chiefly from test results. Examiners have tested the children in each of the two nursery classes and also those in other contrast groups with similar socio-economic status, one nearby, and one removed by some 60 miles. The test performances at the end of each summer session, when compared with those at the beginning of the session, have shown spurts of improvement which do not appear in the test results of those children in the contrast groups who got neither the nursery school nor the home visits. The superiority of the test performances of those children in the nursery school who got also the home visits, over those in the contrast groups has continued through first grade.

These test results have shown two other phenomena of highly significant promise. (1) The younger siblings of the children attending the nursery school and getting the home visits were significantly superior in test performance to the younger siblings of children in the contrast groups. Apparently what these mothers were learning from their observations at the school and from the home visitor had really improved their management of their younger children. Klaus and Gray have called this "vertical diffusion." (2) The children of the contrast groups living in the same neighborhood as those who attended the nursery school and received the home visits got higher scores on the tests than did those children in the contrast group living some 60 miles away. Apparently these mothers who learned new child-rearing practices were somehow communicating them to their neighbors in a significant degree. Occasional observations indicate that their methods of communication consisted in informal demonstrations given to neighbors during back-porch gatherings. Klaus and Gray have called this phenomenon "horizontal diffusion." Other innovators like Ira Gordon and Ronald Lally at the University of Florida, and David Weikart and his collaborators in the public schools of Ypsilanti, Michigan, are apparently finding success in attempts to repeat these evidences of both "vertical diffusion" and horizontal diffusion." Moreover, these findings have recently been repeated and extended at the Demonstration and Research Center for Early Education (DARCEE) at Peabody College (Miller, 1968). It remains to be determined whether the children in the intervention programs actually succeed better in the acid test of school performance than do these in the control groups.

One exceedingly interesting outcome of the repetition of the Early Training Project, reported in preliminary fashion by Miller (1968), consists in the various bits of evidence that participation in the project has enriched the lives of the parents. Over half of the mothers participating have gone on to complete their high school education or have enrolled in courses to upgrade their vocational skills. Several have completed courses in cosmetology. Almost one-fourth of these mothers have enrolled in or completed the training to become licensed practical nurses. None of the mothers who participated in the nursery school and the home visiting is now employed as domestics, and half of those who were originally employed as a domestic have upgraded their employment status. Two of these mothers who were originally illiterate have now gained reading skills at the third- or fourth-grade level. A concern with community affairs has also increased. Several of these women have served on their church boards; one has joined in the Metropolitan Action Council elections, and two others have served as representatives on the Council's board for the Head Start program. On their own, these families have developed a parent organization which has planned cooperative picnics, outings for the families on weekends, developed a rotating-book library, and organized a mother-father bowling league. From the standpoint of completing the investigation, one of the problems has been to keep the members of these groups in the housing project until the program of intervention is complete for these parents develop a strong interest in buying their own homes. Two of the families have actually bought homes while continuing their children in the classroom program by providing their own transportation. Increases in savings accounts and checking accounts are evident. Even that family of most desperate means has shown such improvement in the furnishing of their home and the care of the grounds around their apartment that neighbors have been prompted to remark to the home visitors of this family's progress during involvement in the project. On the side of the horizontal diffusion-affect, the staff of the project is being repeatedly asked into the homes of non-participating families to discuss and to evaluate the educational experiences being provided for their own children. While it is no easy matter to put numbers on such evidence of change, it clearly indicates that the lives of parents can be enriched by participating in programs aimed at improving the educational opportunities of their young.

From another pioneering program under the direction of Merle B. Karnes at the University of Illinois comes evidence that mothers of poverty can be taught to be effective teachers of their preschool children. The first of these pioneering studies was designed to determine if the effects of a brief period of training for the mothers of a sample of 30 children judged by the principal of the neighborhood school to be among the most economically and educationally deprived would be reflected in the intellectual and linguistic development in their children. In this study, the emphasis of the training was placed on helping the mother make instructional materials and learn how to use those materials to teach her child at home. Instead of lectures, the teaching, like that at Peabody, involved the individual mothers in interpretive discussions of what they saw teachers doing in a classroom. Later each of the mothers served as an assistant in the classroom. This training was given in 11 weekly sessions of two hours in the neighborhood elementary school. Three experienced preschool teachers conducted the discussions. Each teacher was responsible for a group of five mothers. The mothers were paid $3.00 a session—the usual hourly wage of $1.50 to prevent loss of income—for each teaching session, but nothing for the time spent with their own children at home. The mothers actually made inexpensive educational materials such as a sock puppet; a homemade flannel board; lotto and matching games with gum seals, with geometric shapes, and with colored chips; counting books made from magazine pictures; sorting and matching activities using miscellaneous household items and an egg carton for a sorting tray; classifying activities based upon pictures cut from furniture and clothing catalogs (see Karnes, 1968). The teachers also taught the mothers appropriate songs, finger plays, and distributed copies of them as a teaching aid in the home. Books and puzzles were also made available for the mothers to take home for use with their children during the following week after each teaching session. These materials were chosen to stress useful vocabulary and basic manipulative skills. The major emphasis of all activities was on language development and was calculated to teach each child the words he needs to label the objects in his immediate environment, to abstract perceptually the characteristics of these objects, to generalize, to use the standard syntax of speech, to understand and to ask questions, and to formulate answers in his own words.

The 30 children in this study were divided into a mother-taught group and a control group. The children in the mother-taught group attended no nursery school, nor did those of the control group. Before the study began, each of the 30 children was tested in one of the classrooms by a trained examiner who was unaware of the subject's placement in the experimental or control group. At the end of the twelfth week, the children were retested. The tests included forms L and M of the Stanford Binet (1960 edition) and the revised edition of the Illinois Test of Psycholinguistic Abilities (ITPA; Kirk, McCarthy, & Kirk, 1968). At the beginning, the 15 children in the mother-taught group had an average Binet IQ of 91.3 (variance=63.42) and the control averaged 95.5 (v=143.58). After twelve weeks of mother-teaching, the taught group had an average IQ of 98.8 (v=71.67) and the control a mean of 95.53 (v=108.08). Thus, during these 12 weeks of mother-teaching in the home, the taught children gained 7.46 points of IQ while the controls gained but .07 point. The taught group also gained significantly more on several tests of the ITPA than did the children of the control group.

In subsequent studies, Professor Karnes (1969) has compared the gains of children taught by their mothers trained in this fashion with those of children taught by a professional staff in her highly-structured preschool. The gains of the mother-taught children proved to be approximately as great as those taught by professional teachers for the same duration. In another part of this project, Karnes (1969) and her staff also compared the gains of children taught by their older teen-age siblings, who were also trained in the fashion described above, with the gains of children from the same socio-economic background taught by professional teachers in her structured preschool. Again the gains made by the teen-taught children are approximately equal to those made by the children taught by professional teachers. On the basis of these results, Professor Karnes advocates a new role for teachers, one in which they teach the parents and involve the entire family in the education of preschool children.

Still further evidence of the effectiveness of mothers in the teaching of their infants has come serendipitously from a project underway in Durham, North Carolina under the direction of Robert Spaulding and Donald Stedman (Personal communication with Spaulding). This evidence comes from a longitudinal study of psychological development in infants born during a given brief period of time in a poverty-ridden ghetto of Durham. There was no intention of intervening to improve the competence of the nine children in this group. The aim was to observe the course of psychological development as measured by the Bayley scale for infants. Each child and his mother were brought monthly during the first year and bi-monthly for the next year and a half to the laboratory at Duke University for testing. The mothers observed the testing. As they observed, the whys of the various items were explained by the social worker who brought the mother to the laboratory. Several groups of 15 children aged 2.5 years had come from this ghetto to form experimental nursery-school groups for especially early compensatory education. The mean IQs of each of these several groups had ranged between the middle 70s and the lower 80s. These nine children who had visited the laboratories along with their mothers failed to show the usual progressive drop in IQ. Instead, they arrived at age 2.5 years with an average Binet IQ of approximately 110, and with no child in the group below 100. Even so, these nine children were still somewhat retarded in language development, but in the motor domain and in the social domain they were superior. It appears that when the mothers of these children had seen the kinds of things at which they succeeded and the kinds of things in which they failed on the tests, the observation prompted them to give their children practice in the "skills" they had failed. They appear to have been exceedingly effective as teachers. This serendipitous finding has suggested a genuine experiment utilizing this kind of approach for the future.

From Illinois comes a combination of studies, not designed for the purpose, which suggests how important it may be to intervene educationally during the first three years. The first study in this combination is one by Genevieve Painter (1968) done in a project directed by S. A. Kirk. This study concerned 20 children who were the younger siblings of the four-year-olds who were selected from the class of 15 for the Bereiter-Engelmann (1966) program at the time of its inception. These four-year-olds had been selected as children exceedingly likely to fail in school from the rosters of Aid to Dependent Children, Family Care, and the authorities of the public schools because their older siblings had failed. These 20 children were divided into a group of 10 (6 males, 4 females; 8 black and 2 white) for tutoring and another group of 10 (6 male and 4 female; 6 black and 4 white) to serve as controls. These children ranged in age from eight to 24 months of age. The tutored group received intellectual stimulation for one hour a day, five days aweek, for a period of one year. The controls received only the customary regimen of their families. Each of these 20 children was given a battery of tests by trained examiners before the tutoring started. The two groups were similar; the group to be tutored had a mean Cattell (1960) IQ of 98.8 and the control group a mean Cattell IQ of 98.4. At the end of the year of tutoring, the Stanford-Binet was used. The tutored group had then a mean Binet IQ of 108.1 and the control group a mean Binet IQ of 98.8. The difference of 9.3 points was significant (p. <.05). Other evidences of gain during the year of tutoring came from the Illinois Test of Psycholinguistic Abilities (ITPA, Kirk, McCarthy, & Kirk, 1968), from some of the language tests of the Merrill-Palmer Scale, and from certain tests of conceptual development. These gains, however, were modest.

At age three the children in the tutored group entered the highly-structured preschool of Merle Karnes (1969) for culturally disadvantaged three-year-olds. When these children were approximately four, after both the infant tutoring program and the period of a year in Karnes' preschool, these 10 children served as subjects in a study by G. E. Kirk, (1969). Kirk was interested chiefly in whether the linguistic deficit of disadvantaged children is a matter of inability to discriminate phonemes or a matter of word-picture familiarity. In order to get an approximately equivalent group of untutored and unpreschooled children of poverty for comparison, Kirk assembled the entire list of children in families receiving Aid to Dependent Children in Champaign-Urbana who fell within the range of ages from 39 to 51 months. He found 30 black children who had not been to preschool, and from these he selected 10 matched, as nearly as possible, for chronological age with the children who had been tutored in the Painter study and who had participated in the Karnes preschool. The third group of the Kirk (1969) study were culturally advantaged white children in a Montessori nursery school whose performances do not concern us here.

When Kirk computed the IQ equivalents from the Peabody Picture Vocabulary Test (Dunn, 1959, 1965) for 10 tutored and preschooled younger siblings of the Bereiter-Engelmann group, the average was 99.9, whereas the average for the 10 who came from ADC families without such tutoring and preschool experience was only 60.1. This difference of nearly 40 points is startling. Those who know the community believe that these two groups are indeed comparable. On the other hand, it must be remembered that the tutored group started with a Cattell IQ of about 98. Unfortunately, we have no knowledge of what the Cattell IQ of the latter group might have been. According to the clinical lore, children of poverty get estimated IQs from the Picture-Vocabulary Test which are lower than those that they get from the Binet, and their Binet IQs are lower than they get on the Cattell Scale.

The Kirk study brought out one more point of considerable interest. Kirk gave these children Seidel's Test of Picture Identification for Children which contains 174 nouns and 174 matching pictures in picture-word triplets differing in a single phoneme (*e.g.*, roll, pole, bowl).

In this test, children are asked to point to one of each such triplet as it is pronounced by the examiner. Kirk found the untutored unpreschooled children with scores very much lower than those with the tutoring and preschool. This finding alone tended to support the reports of such investigators as Cynthia Deutsch (1964), Katz and Deutsch (1963), and Steen (1966) that the disadvantaged children of poverty lack the ability to hear the differences between these phonemes because they have lived in a very noisy environment while very young. It was the merit of Kirk to note that such tests confound the semantic, word-picture organizations with the auditory ability to discriminate such triplets of phonemes as the sound of *r* from the sound of *p* from the sound of *b* in "roll, pole, bowl." Kirk reassembled the picture-word triplets so that each picture appeared with two others of differing phonemic structure. Thus, the picture *roll* was placed in a triplet with *bears* and *saw*. The children were then asked again to point to each of the various objects as the examiner examined them, and the test was repeated with M&M's for getting things right. In this fashion, Kirk determined which of the 174 word-picture coordinations were unfamiliar to each child. After he subtracted these unfamiliar word-picture combinations from the denominator of 174, he discovered that those children without the tutoring and preschooling answered correctly a far higher proportion of the phonemic discrimination index. This finding suggests that the linguistic disability of children of poverty may be considerably less one of the auditory capacity to discriminate phonemes than one of knowledge of words-objects coordinations.

CONCLUSION

If the behavioral sciences have discovered anything that begins to approach in human significance the antibiotics and contraceptive pills of the biological and medical sciences and the atomic energy of the physical sciences, it may well be the new evidence of the great plasticity in infant and early child development. This new evidence provides a basis for a justified hope that the cycle of poverty generating the incompetence that, in turn, generates poverty can ultimately be broken. No longer is it sensible to consider the incompetence of those who have grown up in poverty the inevitable consequence of their biological inheritance and nature.

On the other hand, we of the behavioral sciences still have a long way to go where early child care and education are concerned. Our stage probably corresponds to that in the development of antibiotics at which Dr. Fleming was when he found that streptococcic bacteria adjacent to penicillin mold will die. This finding ultimately led to the powerful antibiotics of medicine. We, too, have such a justified hope. If we will follow the leads of the data from our scientific experiments, and also of the data, even of the soft data, from the evaluations of those innovations which appear to be promising in early childhood education, and if we will yield up the attitudes and beliefs we learned by hearsay from those who taught us, we shall learn how to compensate the children of the poor for their lack of opportunity. We shall also learn how to help parents reared in poverty to organize their efforts to improve the quality of their lives and to learn how to develop in their own children that competence required for success in school, for later employment in the economy, and for participation in the mainstream of our society.

If our impatient society—and the reasons for this impatience are all too obvious—does not lose hope and faith too soon, and if the violence of those in poverty does not destroy confidence in a positive approach, it is conceivable that we of these United States of America could bring a major share of the children of the persistently poor into the mainstream of our society within a generation.

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INTERDEPENDENCE IN SCHOOL FINANCE: THE CITY, THE STATE, AND THE NATION*

H. Thomas James, Dean, School of Education, Stanford University, Stanford, Calif.

When I completed my study of financing education in the great cities[1] two years ago, I concluded that most of our large city school systems find themselves in a bind financially. Their tax bases are growing too slowly, and in some cities actually are declining in value, at a time when new demands for improving schools and other government services are being made by the changing populations of the cities, by the burgeoning school population, and by the state and national governments. New Federal money is doubtless helping the situation, but not enough to reassure the dark prophets of impending catastrophe. In some instances the Federal money actually has had a negative effect, for state legislators and local voters frequently withhold appropriations to schools that might otherwise have been made on the argument that the Federal money is sufficient. Yet clearly it is not sufficient, nor are the combined efforts of all levels of government sufficient to reassure those who see trouble ahead.

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[1] James, H. Thomas; Kelly, James A.; and Garms, Walter I. *Determinants of Educational Expenditures in Large Cities of the United States.* U.S. Department of Health, Education, and Welfare, Office of Education, Cooperative Research Project No. 2389. Stanford, Calif.: Stanford University, School of Education, 1966. 198 pages.

Local taxpaying ability continues to be the most important determinant of social policy for education in all our cities, and the targets being set for school improvements are thereby held to disastrously low levels in most cities. Defining a larger role for the Federal Government in the financing of education that will compensate for weaknesses in local and state jurisdictions is our best hope for guarding against disasters that now threaten in dozens of cities. Social policy must determine, rather than be limited by, the resources to be allocated to education, or we face a rising tide of troubles. Congressional recognition of that fact seems to me to be a beginning, but only a beginning, and we still have not even a beginning for the development of a broad national policy for the improvement of education.

Recently I completed two other efforts: One was the decennial review of school finance studies for the forthcoming *Encyclopedia of Educational Research*, and the other was a chapter for the October 1967 issue of *Review of Educational Research* entitled "The Politics and Community Decision Making in Education." It is out of the freshness of these experiences that I have ordered the thoughts I bring you today. I am convinced that the educational programs at the local, state, and national levels are indeed interdependent, and that the political terms by which this interdependence comes to be stated in the years ahead will have important consequences for the welfare of our people.

As I have worked at my studies of school finance over the past several years, I have entered into a great deal of correspondence with researchers in the field and with policy-makers at the national, state, and local levels. I find from this correspondence that while we have few people skilled in assessing trends, we have no shortage of advocates in education. What I was receiving from most of my correspondents were proposals for ways of ordering the future, phophecies of hoped-for courses of events, statements of self-fulfilling hypotheses that the authors would nurture. I am sure there were equally dedicated prophets and hypotheses-makers of quite different persuasion than my correspondents, who can be expected in the years ahead to be equally diligent in opposing the view of those I consulted.

Since I am not a prophet, I cannot bring you today a blueprint for the way we shall order the interdependencies and responsibilities for eductional services tomorrow among cities, states, and the nation. What I shall attempt to do in this paper is trace some of the insistent demands for educational services articulated at the several levels of government, for I believe these demands will have important influences on the ordering of educational priorities, and on the ways to finance them.

I must leave out of account, of course, those unforeseen consequences of coming events that may be as forceful in their impact on school policy as are those still flowing from Sputnik, the civil rights movement, and the reapportionment of state legislatures. We can, of course, extrapolate and see that far-reaching effects can yet be expected from these three events, for their effects on our school systems have by no means been fully felt. I chose not to do that today, because the education journals and other sources are rich in such extrapolations. Rather, I shall deal with what appear to me to be sensible extrapolations from positions now being taken by the President, the Congress, state governments, and local school districts that seem to me to have some rather clear implications for the immediate future of education.

The Federal Position

The first of these to be considered is the Federal position. I think we can expect not a great expansion of the Federal role in education in the coming session, but rather an extensive reappraisal and consolidation of present efforts. During the past year I have seen quoted in widely different contexts a spokesman for the Bureau of the Budget, a Congressman, and a leading columnist, all expressing themselves in almost identical language on the probability that the Congress would pause to assess the disorder represented in 170 grant-in-aid programs in 21 different Federal departments and agencies operating through 92,000 units of government throughout the 50 states.

This remarkable disorder arises not out of a clear Congressional policy for education, but rather out of a lack of one. The Congress is faced with overwhelming evidence of national needs for improvement of the educational efforts of this nation, evidence that poses a threat to national order and therefore to national security. In the face of this evidence, the Congress has yet to generate a national policy for education. Besieged with so many advocates of courses of action, it seems simply to have thrown up its hands and appropriated money for supporting any good idea that could be advanced throughout the vast educational establishment, in the general hope that ways can be devised to exploit any breakthrough that is achieved, and to promote any line of experimentation that holds promise.

The system of project proposals was patently unmanageable under the original arrangements, and if continued, it would have swelled the flood of demands already rising to alarming levels to reduce the involvement of Federal officials in the administration of State and local school systems. A period of consolidation of effort is now under way, and we must wait to see how far it will go.

Clearly the regional educational laboratories are making an impressive impact, and in their close association with the research and development centers in universities are starting a promising ferment in the educational establishment.

Of all the popular and professional support we have for the new Federal programs, that for the pre-school programs seems to be highest; preschool programs appear to be the brightest hope we have for improving the chances of the underprivileged child. Yet the prospects for institutionalizing and extending these programs seemed brighter a year ago than now; under existing law, public schools often are seriously hampered in extending services to children younger than five years, and teachers and taxpayers are often less than enthusiastic about the development of a new, and perhaps competitive, sector of public education.

The impact of the civil rights movement on the school, too, is changing. The demands, once so vociferous, that the schools be used as the principal social instrument for integrating the races is declining. Recent studies, notably James Coleman's,[2] emphasize the greater impact of other agencies and institutions in socializing the child. The civil rights movement may well founder if it fails to mobilize more broadly all of our social institutions, for to depend solely on the school for furthering that movement is to expect too much of the school, and will damage its usefulness in its historic function of helping all children to equip themselves for life in our society.

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[2] Coleman, James S., and others. *Equality of Educational Opportunity.* U.S. Department of Health, Education, and Welfare, Office of Education. Washington, D.C.: Government Printing Office, 1966. 737 pages.

I have taken a rather circuitous route to the conclusion that no clear picture of the Federal responsibility emerges from demands for improvement of education now being articulated at the Federal level. The recent record reveals only an overwhelming sense of urgency that something must be done, and done quickly, to improve the capabilities of American educational institutions, and to prevent a disorderly scrambling for viable ideas in the absence of a clear Federal policy for education.

A historical perspective is perhaps more useful in forecasting the long-term Federal position in the interdependent relationship expected to develop. Over the long run, for instance over the last century, the position of the Federal government in education seems much clearer than in recent years. Actually, the Federal position is easier to define, and more clearly set forth in law over the last century than either state or local positions.

Over this long period the Congress has concerned itself with the investment aspect of education, with training manpower and improving technology so as to increase the general productivity of the nation and to strengthen its capabilities for accomplishing national purposes in peace and in war. These concerns for manpower training and technological improvements are traceable through the land grants to colleges of agriculture and mechanics during the Civil War, then through establishment of vocational schools, and more recently, through improvements of courses essential to work in the technological world we live in, such as mathematics and science. One might add, of course, the clear evidence of recent years that the Congress hopes the education industry will at long last give some small attention to the industrial revolution, and so encourages efforts to substitute technological innovations for the high-cost personal services that now absorb the major share of educational expenditures.

The steady persistence of demands, from the Federal level particularly, for evaluation of educational programs in ways that direct attention to possibilities for substitution of more efficient ways of accomplishing our purposes is likely to have two important consequences for financing education.

First, we may expect an impact on instruction through the forthcoming efforts to assess our educational output. I think we are approaching the day when we can recognize that the greatest differences among schools are best illustrated by the social values they teach; by contrast, we are developing a remarkable consensus on the commonalities of knowledge we want taught, particularly in the areas of the sciences, mathematics, and perhaps languages. I believe it may be possible to develop national policies and curricula in these areas, leaving the more value-sensitive social and humanistic studies to state and local determination. The sophisticated approach to the measurement of the national educational product, worked out by Ralph Tyler and his advisors, may point the way to better understanding of how we can improve our educational product and still preserve a large measure of our pluralistic social values.

I expressed the hope some months ago that the effort to measure our gross educational product might be undertaken by the Education

Commission of the States. If not that body, then I hope some other agency can be persuaded to undertake the assessment, for I am sure that the needs of education will be richly rewarded, not by stronger pressure groups, but by popular support for realizing opportunities that are now being foregone and for averting disasters that are almost upon us.

A second consequence of the persistent demands for evaluation of education can be expected to have an important impact on the fiscal processes and decisions in education. This consequence is traceable to a new priesthood that is being consulted about allocations to education. I refer to the economists' increasing interest in education, and to the methods they use to analyze educational affairs, such as cost-benefit analyses, systems analysis, and program planning, and budgeting systems.

It is possible, of course, simply to dismiss this movement as a recurrence of the activities associated with the cult of efficiency that was rampant in school affairs half a century ago, with the unhappy effects for education outlined so vividly by Callahan.[3] Or one can conclude, as I suggested earlier, that since a new priesthood is in power in Washington, we have a new catechism to learn, and so dismiss it as ritual. However, I am inclined to think we cannot dismiss this movement lightly, first, because this time it emerges with a much broader intellectual undergirding and logical sophistication, and second, because politicians are seizing upon it as a means for controlling school costs that have risen steadily throughout this century at a rate faster than that at which the total economy grows. Therefore, I will argue for knowing more about the movement, its assumptions, its methods, and its objectives.

A first step to such knowledge is to recognize a hierarchy of complexity in the new methods. Cost-benefit analysis is the simplest component, systems analysis is a more complex process, and program planning and budgeting systems are the most complex. Comprehending the intermediate steps is one way to easier acceptance of the implications of program planning and budgeting systems, for schoolmen are already engaged in many places with some level of cost-benefit analyses on some parts of the total school operation in many school systems, more recently in negotiating for new Federal program funds; but in the past, too, some fairly sophisticated cost-benefit studies were done in such areas as transportation and food service, though often with a too narrow frame of reference and with haphazard methodology.

Let me summarize the Federal position on the forthcoming interdependent relationship for financing education as follows: first, continuing and strengthening traditional Federal concerns for improving the labor force and for encouraging technological development, to the end that national productivity increases and improves the general welfare; second, assessing the educational product of the nation and seeking ways to improve it, especially in areas critical to economic productivity, such as science, mathematics, and perhaps languages with national policy and perhaps national curricula being supported and diffused in these areas with Federal funds; and third, continuing concern for efficiency in education, particularly as cost-benefit studies reveal ways for substituting technological innovations for expensive personal services in accomplishing educational purposes.

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[3] Callahan, Raymond E. *Education and the Cult of Efficiency.* Chicago: University of Chicago Press, 1962. 273 pages.

I might add that we can expect the Congress to continue to search for ways to prevent the states and localities from allowing Federal funds to substitute for funds that might otherwise be appropriated at State and local levels, so that Federal funds are actually used for improvement of education, and not for tax relief at other levels of government.

The State Level

I turn now to consider the state level, and to see if the demands made at that level suggest how the state will fit into the emerging interdependent relationship for financing education.

The state laws and constitutions are curiously silent on the investment aspects of education, or manpower training. As with the Federal government, one can become bemused with current proposals, many of which simply reflect national or local anxieties; but over the long run, again one can discern a pattern. The acts of state legislatures reveal a preoccupation with two sets of concerns, one having to do with the enforcement of minimum standards of educational programs and personnel, and the other set of concerns having to do with the equalization of educational benefits, and the tax burdens that support them. Both of these sets of concerns generate powerful pressures toward centralization of educational decisions and administration. Those that deal with standardization of programs and personnel have been driving curricular decisions to the state level, and increasingly decisions on salary scales and conditions of employment as well. The concern for equalization also encourages centralization, primarily because more than half of the costs of education have rested on archaic tax structures, mostly property taxation, which were frequently badly and occasionally scandalously administered. The most common result of this arrangement is that the schools most in need of improvement have been least able to afford it.

Through much of the first half of this century, states have been distributing state-collected revenues inequitably in order to compensate for inequalities in property tax revenues. More recently states have been moving into supervision of property tax administration. It now appears likely that more states will be driven by increasing teacher militancy to underwrite state salary schedules for school employees. A logical next step will be direct state administration of property taxes to help pay the costs, and abandonment of the bureaucratic wonderlands we now have for equalization under such euphemisms as the foundation program.

If the teachers' salaries are shifted to the states, it seems unlikely that the states would continue to share the residual costs with local school districts on a formula basis.

Some states are already finding it feasible to appropriate funds for schools on the basis of financial needs as revealed by the analysis of the budgets of individual districts, and a great many more states now have reduced the number of districts sufficiently to begin doing so. The number of school districts continues to decline, is down now to 21,704 from the peak of 127,422 in 1930, and is expected to stabilize at 5,000.

The use of a formula for allocating school funds has always been a substitute for knowledge about the budgetary needs of the school, once too difficult to obtain on a district-by-district basis. Now, however, most states have a manageable number of districts; adequate technology for data collection and data reduction is increasingly available; and a promising revolution in accounting and budgeting already is under way. It is perhaps time to lay aside our primitive substitutes for knowledge, and deal directly with information about the financial needs of each school district.

Many legislatures make appropriations to institutions of higher education on such an informed basis, and have done so for years. There is now little reason for them to continue to deal blindly with appropriations to the public schools. Better information on the needs of schools is likely to increase appropriations over those now being made on a ritualistic and often unpersuasive formula basis. Many of the large city school districts already are operating outside the regular state aid formula, and some for years have gotten their state appropriations through direct negotiations with the legislature and the governor.

In summary—I have identified the probable state position in the forthcoming interdependent relationship for financing education as follows:

1. Continuation of the traditional concerns for enforcing minimum standards for educational programs and personnel and for equalizing the benefits and burdens of school expenditures.
2. Further yielding to the pressures for centralization of educational decision-making and administration with more decisions on curriculum, materials of instructions, probably teachers' salaries, and perhaps school taxes on property, moving to the state level.
3. Gradual abandonment of school aid formula, such as foundation programs, as new accounting and budget technology and methods increase the flow of information that is needed at the state level to make rational judgments on the financial needs of local districts.

The Local Level

Now you may ask, with Federal policy governing production-oriented investments in education, broadly defined, and state governments controlling much of the rest of the curriculum, determining salary and the conditions for employing of teachers, and perhaps taking over budget decisions, and property taxation as well, how can we see a place for the local unit to enter significant policy-making and be involved effectively in financing education? I will argue that there is such a role for local governments, especially in city school districts, and that it is a role of critical importance. Furthermore, the role I see is not one to be created, but one that has been emerging for a long time; I simply bring it to your attention in ways not common to current textbooks on school administration.

The most important reason for assuming an important place for local decisions in school affairs is that the history of schools in this nation is characterized by pervasive, almost obsessive, localism in school policy. This observation is supported by all our written history of education, and is emphasized for me by a three-year study of school boards I recently undertook with support from the Carnegie Corporation. In these studies we noted evidence of rising tensions surrounding the functioning of local boards of education. Much of this tension was building up because the functions and functioning of school boards are changing, while public understanding of their functions, and even the understanding of many school-board members, has not changed.

During the last half century we have seen the powers of boards of education eroded by a growing body of universalistic policy generated at the state and national levels, not only in government, but in voluntary professional and school-board associations as well. As the body of universalistic policy has grown, the traditional policy or rule-making function of the board has gradually shifted to application or adjudication of policy or rules made elsewhere, in which boards mediate the terms for applying general policy to local circumstances.

I noted above the sharp decline in numbers of school districts, and therefore in numbers of board members. Yet while boards have declined in number and changed in function, they find themselves relatively unprotected by universalistic policy, and increasingly involved, because their declining numbers concentrate the fury of their involvement in some of the most fundamental conflicts in our society. Religious antagonisms account for the oldest and most persistent conflicts over schools in this society. Racial antagonisms, probably second in age and persistence, are the most explosive issues facing school boards today. In addition to these conflicts, school boards are increasingly confronted with conflicts based on economic issues. The poor are learning that education is important to economic success, and this awareness is generating conflicts as explosive as the religious or racial antagonism because of their potentially revolutionary effects on the economic, social, and political order.

The management of conflict, such as that generated by the demands of individuals and groups just referred to, is the business of government, and, indeed, is the main reason for the existence of government. Local boards of education perform a useful function in the maintenance of social order by holding hearings on the demands, resolving conflicts, where they can, in ways that are reasonably satisfactory to all, and where they cannot resolve the conflict, they can aggregate the demands and articulate them as demands for support from higher levels of government.

Presumably many of the demands for financial support formulated by city school boards will be appropriately directed to the Congress, on grounds that urban populations are mobile, and the national interest dictates large expenditures for improving pools of potential manpower which may not benefit the local economy in the short run, but will benefit the nation in the long run. Certainly this argument is viable now for the many large cities, virtually immobilized by one of the greatest migrations in human history, and is viable as well as an argument for large national allocations for education to rural areas from which millions of migrants will continue to come.

Other demands will be directed appropriately to state legislatures, on grounds that urban education is now frequently inferior to that provided in other areas of the state, and can be improved only by meeting the higher costs of urban education and equalizing the enormous overloads on urban tax bases resulting from educational and many other costs borne by cities in order to serve surrounding suburban areas.

Other demands may be appropriately directed to city government and may in the long run be expected to revolutionize educational organizations in the city, for we are relearning a lesson taught by Plato, which we only half-learned when John Dewey retaught it, that the city itself may be the most efficient teaching machine.

Instead of building our city schools to look like jails, and operating them much as though they were, there seems to be hope that we can reduce the century-long emphasis on the school as a custodial institution, and begin involving the children in many and complex ways in the potentially great educative experience of life in the city. That part of the educational program that is essentially cultural, that relates to social values, that uniquely transmits the cultural heritage of a given city or community, and that, we hope, will permit us as a nation to perpetuate our pluralistic and wonderfully heterogeneous perceptions of the purpose of life and how to benefit the human condition, must fall on local government, for it is being attended to at no other level.

In summary, I see the emerging role of local school boards as:

1. Mediating and adjudicating the terms and conditions under which the growing body of universalistic policy for education generated at state and national levels, both in government and in professional associations, is applied in the local situation
2. Articulating demands on the governmental units at city, state and national levels for meeting educational needs in the district (and for this purpose we may want to increase the number of agencies with power to hold hearings, perhaps to include community councils or advisory bodies for every high-school attendance area, or perhaps even for every attendance center)
3. Attending to the task of cultural transmission and the preservation and enrichment of the social and humanistic values of importance to the clientele of the schools. For accomplishing this purpose, local boards, of course, will need to retain a legitimate claim of taxable resources within the district.

How, one might ask, might these responsibilities be distributed in terms of proportion of the tax revenue to be contributed? I have no way of answering that question, because it, above all others, is to be resolved in the political arena. I think that arguments for viewing education as an investment that yields predictable returns to the economy will cause Federal allocations to increase, perhaps to a fourth of the costs before the end of the century. If salary negotiations are moved to the state level and the states underwrite teachers' salaries, perhaps half or more of the costs will be raised at the state level. The local share of costs will then vary depending upon how congruent local demands are with state and national aims, upon how persuasive local boards are in getting support for their peculiar needs from city, state, or national treasuries, and upon the demands and capabilities for supporting those parts of the school program unique to the local district.

Where local apathy or poverty reduces the local share, we will be assured of minimum programs continuing to contribute to state and national aims, with some falling off of efforts to maintain local social and cultural characteristics; one can argue that such circumstances would contribute to sound social policy on the grounds that the transmission of social values which contribute to apathy and poverty probably should not be encouraged.

On the other hand, communities rich in material resources that are insistent and persuasive in their demands for transmission of their social values will find the means to accomplish their purposes, and this, too, would seem to fit into a sound social policy for education. One can wonder about materially rich but apathetic communities, which would surely wither, or materially poor but culturally dynamic communities, which could be expected to breed revolutions. I have left such communities out of account in this paper, not because speculating about them might not be interesting, but because the paper is already too long.

ELEMENTARY AND SECONDARY EDUCATION NEEDS FOR THE SEVENTIES

Homer L. Johnson, Past President, Phi Delta Kappa, Blomington, Ind., and Professor of Education and Director of Teacher Selection, Kansas State College, Pittsburg, Kans.

As we consider the matter of elementary and secondary education needs for the seventies, we are aware of the great strides forward in the sixties. The momentum gained in the sixties is certain to carry us forward. Reorganization into larger administrative units, construction of fine new buildings, increased preparation of teachers, expanded services to pupils, and improved methods of teaching will roll right on into the seventies. It is trite to call attention to the continued need for adequate financing. The financing of education in our country is coming more and more to be a function and responsibility of the Federal government. However, we need to remember that the whole child goes to school and every child goes to school. We must gear our education and financial support accordingly. Federal support of education needs to be general and all-inclusive, not for certain specific areas or for certain social groups. Great sums have been spent on Head Start programs, science and mathematics institutes, and that type of activity. The writer does not downgrade these, but they are extremely expensive programs and the per-capita cost is staggering.

The writer feels that what is currently being done for education is commendable and praiseworthy and has shown willingness and concern. The Federal government has demonstrated that it has recognized the need to give more and more attention to education and its power. It has shown that it is aware of the dire need to further education. We deeply appreciate this awareness and this spirit of support. But all this has been more like a "shot-in-the-arm" effort, a kind of emergency treatment. The writer feels that in the seventies we need to do the following things.

1. More national purpose is needed in education. As a nation, what are we trying to do through education? What are our objectives as a nation? If the Federal government is to invest great sums of money in elementary and secondary education, what results are desirable—and expected? We may say that we are trying to build good citizens, but what is a good citizen? We may say we want individuals to have more knowledge, but is knowledge enough? How should they use this knowledge? Have we been so tolerant and so democratic that we have actually encouraged the individual to mount his educational horse and ride—the direction is of little or no concern? Look around ourselves and we see the results—unrest, chaos, indecision, noncommitment, protests, demonstrations, strikes, and a nation badly shaken and disturbed.

The writer refers you to a recent publication by Phi Delta Kappa, an international professional fraternity for men in education, on the "Second Symposium on Educational Requirements for the 1970's, an Interdisciplinary Approach." This symposium was sponsored by the Phi Delta Kappa Commission on Education, Manpower, and Economic Growth and the University of Minnesota chapter of Phi Delta Kappa. Forces for change—political, technological, social, and economic—were explored. These are the forces which will play a decisive role in shaping the requirements of the United States system of education as the decade of the 1970's is entered. Certainly the scope of areas treated indicates the concern for broad planning. It is quite appropriate that the title of the publication is "Educational Planning in the United States."

The first paper presented in the symposium has such statements as, "Now that we are beginning to recognize the need for a serious reconstruction of national goals, including objectives for American schooling, . . ." "Our society supports schools because it wants the school to accomplish certain objectives." And, "If professional educators do not recapture the initiative in public education, other groups will fill the breach."

Thus, serious educational planning is essential. It should consider all disciplines. It must be long-range rather than stop-gap, experimental, piecemeal programs. It needs to come through professionally trained personnel.

The writer would suggest that we begin the seventies with a goal in education which he believes to be the Number One priority, especially if we are concerned with the survival of our country, that of the development of each individual into a good person. As is the case with many words in the English language, the word *good* has many meanings according to the context in which it is issued. Here the writer uses it by means virtuous, righteous, upright, just, benevolent, honorable, agreeable, pleasant, and having excellent moral qualities. To put it briefly, it is high time that education in the elementary and secondary schools stress the moral and ethical values in life. Not only is this a priority—it is a must. In December of 1950, 20 members of the Educational Policies Commission approved a statement, "Moral and Spiritual Values in the Public Schools" for publication. The publication bore the copyright date of 1951. In the foreword is the statement, "This report deals with a problem of utmost importance. Intelligent and fervent loyalty to moral and spiritual values is essential to the survival of this nation."

2. In the seventies we must stress a balance in education. Balance is essential, whether it be in the physical realm or in the realm of mental, philosophical, or spiritual traits and qualities. As this is written the Apollo 12 shot is poised for blast off. Balance will determine its success. One small imbalance could mean failure or even disaster. Think of the balance needed in the works of a timepiece, the mechanism of the automobile or the airplane, and the mighty bridge or tall building. Even the order of the universe is based on a perfect balance.

The importance of balance in education was recognized years ago when one of the "innovations" became "the *whole* child goes to school." But this was no innovation. Plato defined a good education as consisting of giving to the body, the soul, and the mind all the beauty and all the perfection of which they are capable. This certainly means balance. We have gone far in the area of the mind and we will continue to do so on through the seventies. But when we think of what has been done for the "soul," we find things terribly out of balance. Technical know-how has gone far. Trips to the moon, computerization, electronics, and what have you, but also dissent, distrust, unrest, disillusionment, moral decay, unprofessionalism, strikes, property destruction, all indicate our shortage in training in and commitment to moral and ethical values. This lack of balance is on the way to destroying us.

In 1964 the Commission on Religion in the Public Schools, American Association of School Administrators, published its report entitled "Religion in the Public School." In Chapter I is the statement, "Public schools are indispensable to American democracy. Their chief responsibility is to develop moral and literate citizens for the general and individual good. Along with government and all its agencies, the schools must be neutral in respect to the religious beliefs of individual citizens. But this does not mean in any sense that public schools are or should be irreligious." In another place the report states, "The Commission believes that sound public and educational policy requires of our public schools that in all they are they shall embody, and in all they do they shall help develop, worthy moral and ethical values."

Too many people have interpreted the effort to keep schools out of religion as meaning also to keep religion out of schools. Also, too many people in school work, in endeavoring to steer clear of any semblance of the teaching of religion, likewise shun any teaching of ethical and moral values. In other words, schools keep hands off of any organized system or program of teaching in the area of ethical and moral values lest it be interpreted as religious instruction. Thus, imbalance has come about with much more emphases placed on the responsibility for developing "literate" citizens than "moral" citizens.

Here again we might look to the dictionary definition of "moral", which is: ethical; discriminating between right and wrong; governed by virtuous conduct; chaste; just.

Recently the writer read from a paper presented by a faculty member of a State university to the effect that in our society there are certain virtues such as promise-keeping and truth-telling that are standard. He referred to virtues of the Boy Scouts such as trustworthy, loyal, helpful, friendly, courteous, kind, obedient, cheerful, thrifty, brave, clean, and reverent. He admitted that there is nothing old-fashioned about these virtues but stated that these had to be harmonized or orchestrated into life syles of different generations. The same could be said of the Ten Commandments. There is nothing old-fashioned about them either. No one has ever broken the Ten Commandments. They have been violated, but never broken; they are right there before us, still intact, as strong and as forceful as they were at the time they were given. But do we fit all these virtues into life styles, or do we fit life styles into these never changing virtues? Our difficulties lie in trying to set up life styles to suit our human desires, our greeds, our bodily wants, and then trying to shape the virtues and twist them around to harmonize with our life styles. Should not we make our priority that of shaping life styles to harmonize with the standard and lasting virtues? Did not the old sea-going captains change their courses to fit the North Star rather than trying to change the North Star to harmonize with their courses?

3. The seventies must see a full return to what the writer chooses to call the humanizing domain in education. Of course, we need to continue putting finances into buildings, machines, equipment, research and all these things. But it is rather foolish to spend large sums on fine buildings only to have them torn by rioting and disorder. It is a terrible waste of money and time to supply machines and equipment only to have teachers ignore their contracts and their obligations, walk out on the students and engage in picketing, marches, protests, fist shaking, and other unprofessional conduct.

When the writer was in the fifth and the sixth grades in the little one-teacher school at a crossroads in Illinois, his teacher both years was a young man we shall refer to as V.J. If someone were to ask the writer to make a list of the things he learned in the fifth and sixth grades, he probably could not actually and definitely name one thing. He must have learned reasonably well the materials covered in these two grades because each year he was promoted. But one thing he did learn, and learn well. He learned V.J. Six years later he began his teaching career, right out of high school without a single hour of college work, with no courses in psychology or methods. Whenever he ran into a problem or a difficult situation requiring a decision and some action, he would ask himself, "What would V.J. do in a situation like this?" He always felt quite certain he knew what V.J. would do, because he had *learned* V.J. No machine, no mechanical computer or device of any kind can take the place of a V.J.

A nationally known educator tells the story that he once was on the verge of becoming a dropout. One day when at his lowest ebb a teacher came by his desk and with an affectionate pat on the shoulder said, "I'm proud of you——. You're really going to make something of yourself some day." This was the turning point in his life. No machine, regardless of how complicated, intricate and accurate, can do this to a student.

The writer recently was a member of a group of educators who previewed a film produced for the purpose of recruiting men into elementary education. At the close of the showing, one member commented that if he were a young man considering elementary education and he saw the film, he would definitely decide to the contrary. His criticism was that if one wanted to be a mechanic or a machine operator, the film would have some appeal. But a teacher concerned more with machines than with youngsters is not what is needed. Again, we lack balance. We are in the process of almost idolizing machines. We need a return to "loving kids."

The writer is currently the director of teacher selection at the college where he has been a member of the faculty since 1947. All students who plan to teach in either the elementary or secondary school make application for admission to Teacher Education through his office. This application initiates a screening process. As a part of the process the student submits a brief "personal history" in which he or she is expected to give some of his or her philosophy, reasons for desiring to teach, and so forth. Time after time the student will write, "Well, I had a teacher once. . . ." Never does one say he or she got the desire and inspiration from a machine. Usually the person in elementary education gives as a reason for selecting teaching as his or her profession that of "I like children, and I want to teach them," while the student in secondary education is more likely to say "I like history (or math or science, etc.) and I want to teach it." Never has anyone said he chose teaching because of a love of machines.

Is it not very possible that under the pretense of "interest in the welfare of the student" teachers are spending a tremendous amount of time and energy engaging in walk-outs and demonstrations when actually they are more concerned with their own welfare? Negotiation, bargaining, protests are replacing classroom demonstrations of human concern for boys and girls. State associations of teachers spend much time on "teacher welfare," encouraging walk-outs and strikes, while seeking legislation which will make teaching a profession. Professionalism is not something to be legislated. It is something to be earned and deserved. The procedures being used are lowering the respect and esteem for teachers and making them more of a cold, machine-like person with the humanizing characteristics meanwhile decreasing. This is bound to have its effect on the students. Here again imbalance enters, and the influences of cold and mechanical, and yes, even selfish processes are passed along and the dehumanizing processes continue and increase day by day.

Teacher welfare is highly important. It is necessary. As a professional group, teachers need to work for the betterment of the profession. They need to stand up for their rights. But there is a professional way to do it, and people can certainly negotiate for things that are desirable. At the same time, people can disagree without being disagreeable.

4. Another area needing stress is that of education for commitment. Boys and girls need to grow up believing in something. All too often, through fear of hurting someone's feelings or "tramping on someone's toes," we tend to advocate and teach open-mindedness and broad-mindedness to the point youngsters believe in so many things they practically believe in nothing. Open-mindedness can well become empty-mindedness and broad-mindedness may become thin-mindedness. One

can become so ultra-tolerant that he actually has little in which he believes wholeheartedly. Speaking from his own experience, the writer knows there are those who would curb the manner in which an invocation, for example, is given, maintaining that a Christian prayer should not be given if there are non-Christians in the audience. Also, there are those who maintain that the Pledge of Allegiance should not be given or the National Anthem sung if there are persons from other nations present. How weak-kneed, spineless, and noncommittal can one get? Naturally, a strong commitment does not imply that one will try to force one's beliefs on others, but at least others will know how you feel and where you stand—and if they are reasonable, they will respect one more.

Lack of commitment tends to make the individual unsure of himself, uncertain of things in general and of himself in particular. This lack lays him open to any and all schisms, schemes, and notions. He is as the man who built his house on the sands. He is as the man who mounts his horse and rides off in all directions. Education needs to stress the idea of "this I believe."

5. Yet another area of education in need of emphasis is that of international relations and understanding. It has been the privilege of the writer to work with the Phi Delta Kappa Commission on International Relations in Education during the past six years. He has been a member of an education seminar on the study of education in Europe, including Russia and East Germany. He has, through the experiences over the past six years, come to believe that herein lies the key to world peace. International relations most certainly can be improved and made stronger and more friendly through understanding. This understanding can be brought about through seminars, exchange programs, factual study of other countries, and so forth. Institutions involved in teacher education can offer courses—required courses, perhaps—on international understanding. Elementary and secondary teachers can be made aware of this area and trained in how to teach it in their classes.

The writer recalls stories he read and movies he saw which led him to shudder at the very mention of Communism. He loathed Communists, believing they should be "wiped out" completely. But when one visits schools, say in Moscow, and sees the youngsters, clean, bright looking, friendly, courteous, alert and eager—youngsters who want to live, grow up, and be happy just as our own youngsters do—then he becomes ashamed of previous emotions and feelings and thinks it time we learn to understand people of other nations and to work together rather than be involved in distrust and hate. Again, herein lies our solution to problems involving world peace.

SUMMARY AND CONCLUSION

The writer is well aware of the nature of this paper. He has purposely treated areas of education far different from the usual "whip up an innovation" trends of today. He has dealt with matters that he sincerely feels must be made number one priority, else all others things are in vain. He is well aware of all the needs involving good teacher preparation, buildings, equipment, libraries, instructional media, and so forth, plus the ever-present and all-necessary means of financing all these. Hitler's Germany, and other countries, have shown us what the power of education can do for and to a country. Let us decide what we want for our country and then support the education that will bring about our aims and goals.

To summarize briefly:

1. National purpose with careful national planning is needed.
2. There is need for balance—in disciplines, areas, financing, opportunities, and emphasis.
3. The humanizing domain in education must be stressed. Education deals first of all in human beings—people.
4. Education should help persons stand for something, have commitments, be dedicated to ideas, ideals, causes.
5. In the name of world peace, international relations and understanding need to be stressed, taught, experienced, and sought for diligently.

EDUCATIONAL REFORM FOR THE 1970's

Jacob J. Kaufman, Director, Institute for Research on Human Resources and Professor of Economics, The Pennsylvania State University, University Park, Pa.

Introduction

At the time of this writing (December 1, 1969) the number one story of all the news media is concerned with the revelation of the alleged civilian killings in South Vietnam by members of the armed services. It is not intended here to moralize over the issue but simply to point out that it is necessary to learn what are the factors which led a large number of soldiers to perpetrate such crimes with what is apparently a high degree of equanimity. It is too easy to place the burden of responsibility on the educational system, since the youth of today are products of a host of factors each of which contributes to their character. Yet, it is wrong to conclude that education might not be able to play some role in the process. If each group in society concluded that its contribution is only a small part of the whole and thereby waived responsibility, the totality of each of these decisions would add up to nothing. Since this paper is concerned with basic (elementary and secondary) education, its emphasis will be on the educational system.

The Community Relations Service of the Department of Justice, in September 1969, issued a report on "student unrest" based on a survey of 101 secondary schools with at least a 10 percent minority enrollment and 39 colleges and/or universities with a 5 percent minority enrollment. The survey was conducted in 17 states and 52 cities. It was found that 75 percent of the high schools experienced some form of student unrest during the school year 1968–1969 and that the issues were "fundamentally three: (1) institutional racism; (2) institutional irrelevancy; and (3) a continuous failure of communication between administrators and student protestors." In general, it was found that "a few teachers and administrators felt that most demands made by students were legitimate, and in the survey acknowledged failure on the part of the school to respond adequately to students and community needs." It was also found that "teachers . . . for the most part felt threatened by student unrest" and "by a ratio of 2 to 1, teachers were hostile toward protesting students." Finally, "the survey indicates that only one-fourth of the students' demands are being met. The high school students have as their greatest support the parents; the least help comes from school boards."

These references to activities in South Vietnam and student unrest in the high schools are designed to indicate that there may be some relationship between the two. If institutional racism is common in our schools, is it any wonder that soldiers, who are products of these schools, refer to Vietnamese as "gooks." If many students consider the curriculum as irrelevant (as the survey suggests) and the response of school boards, school administrators, and teachers is one of hostility, what type of learning—substantive or of character—can take place in the school system?

The main point of these preliminary comments is that the youth of today are products of decisions made 20 to 30 years ago, in terms of curriculum, teacher training, the training of school administrators, etc. If we want to turn out a better product in the future we require a lead of 20 to 30 years. What is done in the 1970's as inputs into the educational system will yield the desirable outputs of the year 2000. This paper will concern itself with the longer view. This is not to imply that certain short-run changes are not necessary or worthwhile. It is assumed that other papers will concern themselves with these issues.

*The need for educational reform**

In a recent speech, the U.S. Commissioner of Education, James E. Allen, stated that "public education as it now functions in much of our country no longer has the full confidence of the people in its ability to satisfy their needs and aspirations." [1] He recognizes that some of the criticism may not be justified and, even if justified, the factors behind the lack of confidence are beyond the *direct* control of the educational system, such factors including "poverty, ghetto patterns, discrimination, general economic conditions, etc." [2] However, in his judgement, educators do have control over how they react to this dissatisfaction. Commissioner Allen suggests that "we must be willing to abandon old arguments which too often are based on beliefs and emotions with little basis in fact; to think of education more broadly than in terms of schools and our profession; to be prepared to experiment with drastically different concepts and practices; to introduce scientific discipline into planning, evaluation and management of educational programs." [3] Finally, he establishes three broad goals: the improvement of American education and increasing its relevance; the solution of the problem of the education of the disadvantaged; and the increase in and redistribution of the resources allocated to education.

What are some of the issues of public education which must be confronted in the 1970's?

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*The paragraphs below, in this section, are taken from a paper presented by the author and Carl J. Schaefer before the American Vocational Association, December 6, 1969.

[1] Speech before the Annual Meeting of the Council of Chief State School Officers, November 17, 1969.

[2] *Ibid.*, italics added.

[3] *Ibid.*

THE QUESTION OF PRIORITIES*

Society today is confronted with growing demands for governmental expenditures in such areas as education, welfare, poverty, medical care, etc. The gap between these total demands and the resources available to the various governmental units is ever-widening. As these various programs compete for the so-called "limited buck," it becomes essential to determine priorities not only between education and other programs but also among the various competing groups within education. The competition within education may be among elementary, secondary, and post-secondary (all types) levels. And, within each of these groupings, one would find competition between academic and vocational education at the secondary level, between undergraduate and graduate education at the post-secondary level, and between two-year and four-year programs at the undergraduate level.

Given this competition for limited resources, it is clear that priorities must be established. The priorities can be established only on the basis of comparing the outputs (or objectives or benefits) of various activities with the inputs (costs) of these activities. No longer can the educator lay claim for more resources simply on the grounds that education is "good" and more education is "better." The same argument could be made for other social programs. Nor can vocational educators continue to ask for "more" at the expense of academic educators, or vice versa, without relating these extra resources to the achievement of specified goals.

The fact is that there has been a mis-allocation of educational resources.

When the allocation of resources in the intermediate and secondary levels of education are examined, one finds an over-emphasis on academic education (college preparatory) and under-emphasis on occupational training. It has been asserted frequently that for grades 7 through 12 approximately 80 per cent of the schools' resources are devoted to academic or a generally watered-down general curriculum, despite the fact that 80 per cent of these youngsters will eventually enter the world of work, either as dropouts or as graduates. Regardless of the precise percentages, the allocation of resources is perverse.

The significant question is how this mis-allocation of resources has developed and continues to be maintained. The answer is five-fold: first, there is the general stress on a "college" education fostered by parents and educators, as well as society in general; second, there is a tendency to ignore the results of research which reveals that there is a wide gap between the offerings of the schools and the aspirations, needs, and interests of youth; third, there has been a failure on the part of educators to take cognizance of a large group of youngsters (probably 40 to 60 percent of the secondary school population) whose needs are not being met by either the academic or the vocational curriculum as presently

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*This section is taken from *Occupational Education for Massachusetts*, by Carl J. Schaefer and Jacob J. Kaufman, Massachusetts Advisory Council on Education, Boston, Massachusetts, 1968.

constituted. These youngsters have usually been "trapped" in a general curriculum; fourth, education has failed to evaluate appropriately its programs to determine the relationship between the resources employed (input) to the objectives achieved (output) in the form of student performance, behavior, and attitudes; fifth, education has failed to recognize the achievements of a variety of experimental programs in various parts of the country which are designed to meet the needs of youngsters by educating them in terms which are relevant to them and useful to the world of work.

For these, and other reasons, it is clear that resources have been inefficiently employed and badly allocated.

But, the question can be asked, what are the particular goals of the educational system? How do we know whether or not they have been achieved? Can achievement of goals be quantified? Can we relate costs to the particular programs designed to achieve the goals?

THE GOALS OF EDUCATION

Generally, an educational goal has been expressed in terms of "improving the quality of education." It would be wise to state the objective in more specific terms. Is the objective to have more students accepted into college, or to have the students score higher on standardized achievement tests, or to have more students obtain employment at higher starting salaries, or to have the school receive a higher rating by its accrediting agency?

A statement of the specific objectives in specific terms makes it easier to list and to evaluate the available alternatives. Let us assume that the last alternative—a higher rating—is the goal. There are many ways to achieve a higher rating. One way is to improve the physical facilities of the school. This could be done through refurbishing existing facilities or constructing new facilities. A second way is to improve the quality of the teaching staff. This could be accomplished by in-service training, tuition refund for courses, or salary incentives. A third way is to hire more teachers who could be used either to reduce class size or, by keeping class size the same, to give the teachers more time for preparation. A fourth way is to hire teaching assistants to perform routine tasks. A fifth way is to hire coordinators who would rearrange the instructional process and assign teachers to lectures, practicum, group discussion, tutoring, etc.

As indicated, to achieve the goal of higher accreditation five general alternatives are possible. Some of these might be rejected because they require funds which are not available (new buildings), or because properly trained personnel (teaching assistant coordinators) are not available. However, the possible alternatives are considered in an explicit manner. Too often the decisions are made without the alternatives even being suggested.

The example is too simple. It assumes that there is general agreement as to the specific goal. The most bitter educational controversies involve the question of which of several possible goals should be pursued. The degree to which the separate goals are mutually exclusive determines the degree of bitterness in the disputes. The way in which the schools are now organized makes it impossible to prepare a majority for college and at the same time to give the disadvantaged the type of assistance they require. Nor is it possible to prepare students for college and also to give specific vocational training of any depth.

Much of the controversy in education arises over such issues. However, it is only rarely that they are stated this explicitly. Instead of a debate over the relative importance of various goals, there is the hue and cry of various interest groups which attempt to mold educational policy to their own ends. This type of pressure is perhaps inevitable in a democracy. But if educators are to assume the role of professionals—a role to which they constantly aspire—they must begin to act in the interest of those they serve. And this group is not the citizens, the taxpayers, or even the school board. It is their students. Educators should be guided in their activities by more than commonly agreed upon values prevalent in their communities. They should attempt to be both agents of social change as well as agents of cultural transmission. As agents of a social change they will have to make difficult decisions and be prepared to defend them.

A larger investment should be made in a Careers Development Curriculum. This curriculum is not consistent with the prevailing emphasis on preparing as many students as possible to go on to college. Any educational leader who ventures to install a curriculum which is apparently at variance with conventional values should be prepared for sharp and serious questioning from his community. Failure to show leadership in such endeavors, however, is a betrayal of the youngsters whose education is his responsibility.

What is the basis for a recommendation that the goal of education be drastically revised and that resources be re-allocated among existing curricula? It is the recognition that a continuation of curricula along conventional lines will lead to a sharp division in our society based on class lines or family origins, rather than on the basic potential of the individual. The latter is more consistent with the democratic basis of our society.

THE QUESTION OF CURRICULUM AND SOCIAL CLASS

The highest priority for society is the education of its young. The educational process is fundamentally designed to transmit a set of democratic values and to provide the basis for, in the words of Thomas Jefferson, "external vigilance for liberty." Examined from this point of view, the institutions in our society for providing this type of education tend to abdicate their responsibilities when they divide youth into "tracks" or "curricula." This is not to imply that there are no individual differences or that there are no different interests of individuals. But it is meant to indicate that individual differences in the learning process should not result in placing youngsters in "tracks" under which they are stigmatized as "second-class" or even "third-class" students.

The tendency in recent years in most states, as a result of the Vocational Education Act of 1963, has been to develop area vocational schools. The reasons for such a development are quite clear. The smaller schools cannot provide vocational training in a variety of subject areas because of size. The solution appears simple: establish an area school that can serve the needs of a larger geographic area and provide the necessary diversification. It is assumed that we thus have an "efficient" use of resources.

But the "efficient" use of resources is not synonymous with "least cost." A resource is used efficiently only if the results (or benefits) tend to exceed the costs. We must also be concerned with output (the student).

The development of area vocational schools tends to establish more firmly a division of our youth along class lines. Middle-class children tend to attend their local schools, to enroll in the academic (college preparatory) curriculum, and to move on to college or some form of post-secondary education. Children of working-class families tend to be moved into the vocational track and to end up in the working class themselves, being denied the opportunity of upward mobility. These social class distinctions, in the opinion of the investigators, must be minimized.

The educator today is confronted, however, with conflicting objectives: least-cost and variety in the offerings of education versus the blurring of class lines. The conflict can, in part, be resolved by integrating the activities of the "sending" and "receiving" schools for those students who are highly oriented—by motivation and initiative—towards skill training. Those youths who do not have this orientation should remain in the local school and be fully integrated in the school—comprehensive in substance as well as form. Such comprehensive education should, in the words of James B. Conant, provide "a good general education for all the pupils as future citizens of a democracy, provide elective programs for the majority to develop useful skills, and educate adequately those with a talent for handling advanced academic subjects . . ." "Area" vocational schools should be established to meet the desires of the vocationally "gifted".

Another development which tends to maintain class lines is the establishment of area vocational schools in "suburban" areas where the more affluent, white, lower-middle class families recognize the inadequacies of the so-called comprehensive schools in the local community. There is a tendency for such parents to support financially the development of such vocational schools. However, in the urban areas, where the parents may be from the working class, both white and Negro, the financial ability to support such schools through taxes is quite limited. Thus, there may be a tendency to mis-allocate Federal and State funds. The contrasts between vocational schools in the urban areas and area vocational schools in nonurban areas throughout the Commonwealth are startling.

COMPREHENSIVE EDUCATION

All educational efforts attempt to provide a comprehensive education. This is an education in which the students acquire ability in the basic skills of communication, obtain an understanding of the nature of their physical and social environment, are exposed to the culture and history of mankind, and are made aware of their responsibilities as citizens. The debate on how to provide such an education too often centers on the type of school in which it should be housed rather than on the appropriate curriculum.

The advantages claimed for a comprehensive high school stem mainly from the opportunity it provides for youngsters from all segments of the community to mingle together and to come to know and appreciate one another as individuals. It does offer this opportunity, but whether the opportunity is realized is open to question. The track system in most comprehensive schools tends to reflect the class structure in the community. The youngsters from the more privileged homes usually are found in the college preparatory curriculum. The less privileged, less academically oriented youngsters, who have strong occupational motivation, gravitate towards the vocational education curriculum. The others either end up in the general curriculum through default or escape it by taking the vocational education program which they find least unattractive.

Offerings in almost all subject areas are geared to the track system. English, history, mathematics, and science are usually given separately to college preparatory students. Sometimes further fractionalization occurs with such courses as "English for Commercial Use" and "Vocational Mathematics." These courses reflect a desire to interrelate subject areas, to bring relevance to the academic courses, and to match the level of instruction to the ability of the student. All of these are highly worthy objectives. Unfortunately they are in conflict with the goal of the mixing of all students which the comprehensive school is designed to achieve.

Too many people, however, both educators and interested citizens alike, overlook the actual operations of a comprehensive school. Since there is the form of a comprehensive education, they seem to think that it is present in fact as well. The evidence suggests however, that form predominates over substance.

If the comprehensive school, as presently constituted, does not provide a comprehensive education, how can such an education be provided? A Careers Development Curriculum is an attempt to do so. Its emphasis is on broadening, not narrowing, the options open to the student. The present general curriculum tends to limit not only exploration within school, but also opportunities after graduation. A Careers Development Curriculum stresses exploration. Classes are arranged so that the student can follow his own interests as far as they lead him.

Instead of formal groupings for lecture-recitation type classes, the students' work is more individualized. There is more independent work of a laboratory and practicum nature. With this emphasis there could be more contact among students from different programs and curricula. It could be possible, for example, to make a chemistry laboratory available to students enrolled in the College Preparatory Curriculum and the Careers Development Curriculum during the same time periods. The students could work together on projects involving the synthesis of compounds and their application in basic industrial processes, such as refining or metal plating. Such instruction would obviously require considerable planning and coordination, but this type of coordination is the very basis of the Careers Development Curriculum. The teacher's time in the classroom or laboratory is only the top of the iceberg.

When the question is posed in terms of providing a comprehensive education, the issue of the role of the regional vocational school becomes secondary. It is no longer framed as the comprehensive school versus the vocational school. It is instead a question of determining whether a regional school can make a unique contribution to a comprehensive education. It appears that for some students a regional school can make such a contribution.

In any large aggregation of students there will be some who have developed clear vocational goals at an earlier age than others. These students are not numerous. Even in a comprehensive high school of several thousand students, there will only be a few hundred who can specify the particular occupations for which they wish to prepare. It is not feasible for all comprehensive high schools to provide the facilities necessary to give this small minority the training they desire. Bringing all these students together in regional schools, each of which serves several sending schools, can yield adequate numbers to justify specialized programs. The efficiency of this arrangement, and the savings it permits by avoiding duplication of equipment is obvious.

These unmistakable advantages, however, stand at variance with the democratic virtues claimed for the comprehensive school. How can these mutually incompatible objectives be achieved? The method that most educators advocate is a part-time or "about" system. The youngster spends half of his school time in his home school and half in the regional school. The most common method seems to be a half-day at each school. Other systems such as a day-about or week-about are apparently less common because of their adverse effect upon the continuity of instruction.

This compromise satisfies many of the conflicting objectives, but in attempting to implement this plan other obstacles arise. One is the reluctance of youngsters to leave their home school to attend the regional school. Part of this reluctance is the natural human tendency to avoid that which is unknown and different. The home school may not offer what the student wants but at least his friends are there and it is familiar. Youngsters are also sometimes reluctant to attend regional schools because it makes them feel less a part of their home school. The time spent out of their home school, both class time and the time taken in traveling to the regional school, often makes it more difficult to take part in extra-curricular activities and to maintain the informal contacts which are the basis of the social life in school.

Another obstacle to the effective utilization of the regional school is the difficulty of coordinating instruction between it and the home school. To what degree should the regional school give instruction in the science and mathematics that are related to vocational skills? How can instruction in history, English, and social studies be related to the students' vocational interests? Often questions such as these are not confronted directly. Teachers in the separate schools work independently of each other and it is up to the students to tie the subjects together.

With obstacles such as these, it is obvious why only a minority of students possess sufficient motivation and interest to be willing to overcome them. Yet for these students the regional vocational school does have a role to play in providing a comprehensive education. Since society will have an increasing need for the highly skilled craftsmen these schools will produce, the justification for their existence is clear.

One basic element of a comprehensive educational system is that it gives the students an opportunity to explore before making a commitment, and an opportunity to change after such commitment.

EDUCATION AND OPTIONS

As indicated, an essential ingredient of an educational system in a democratic society is providing the youth with equal educational and social opportunities. To avail themselves of such opportunities youth must be served in a manner which permits exploration and choice, with the promise that any choice does not foreclose future options.

It is, indeed, unfortunate that probably the single, most important factor influencing the direction of a youngster's life is his family environment, a factor over which he has no control. Thus, any youngster entering the school system with disadvantages which affect his learning abilities is immediately disadvantaged in a relative sense. The equal treatment of youth at this stage of his growth, in the form of equal educational expenditures, would still produce unequal results. It would appear reasonable that any attempt to provide equal educational and social opportunities would require unequal expenditures for those youngsters entering school from relatively poorer environments. Such unequal expenditures mean greater expenditures for this group.

Concomitant with such resource re-allocation is the necessity that there be a multiplicity of choices and, when a choice is made, that the student not be foreclosed from changing his decision. If, as sociologists and psychologists assert, the future of youngsters is heavily predetermined by family environment, it would appear that the schools should utilize every means to open up new vistas for youth. That is, it is essential that the educational system provide, through its curriculum and guidance activities, the means by which the students can off-set these predetermined factors which influence their decisions. Therefore, significant changes in curriculum are required and a new approach to guidance must be taken.

The curriculum must be radically revised—in all areas—to accept the concept that youngsters have the ability to learn and that they do not need to be "taught." Learning should be based on experiences which are relevant to them and not to the teachers. The role of the teacher is to provide the conditions and materials for learning. The student seeks out problems and attempts to solve them on his own initiative.

Guidance should be considered as that function in the school system which assists the student in making his decision and not a device by which the student is channeled into certain tracks on the basis of the decision of the guidance counselor.

In this approach education is no longer a 2x4x6 matrix system—the two covers of a textbook, the four walls of a classroom, and the six class periods in a day. Under this matrix the youngster is fitted into a tight, conforming mold—a school. What is required is a system which adapts itself to the needs, interests, and aspirations of youth.

Unfortunately, in our society, a large segment of youth, an estimated 40 to 60 percent, finds itself "floundering" in school. Who are these youngsters? What are their characteristics? Unless we can answer these questions it becomes difficult, if not impossible, to develop an educational system and curriculum which meets their needs.

CHARACTERISTICS OF STUDENTS TO WHOM SCHOOL IS NON-RELEVANT

It has been said,

> . . . a large segment of our youth finds school difficult and distasteful. Many are general course students with no interest in and little aptitude for academic learning. They have met with more and more difficulty as they go through school, and many face with desperation the thought of four or more years of book work. The rewards of education are remote . . . Some of these youth may sense the value of education, but feel they can never persist through school. They have been beating their heads against a stone wall for ten years or more. Quitting school may not solve any problems, but it does give instant relief.
>
> What we are saying, in effect, to many of these low-average youth is "Look—going through high school is a glorious adventure in learning and growing strong. It's like climbing a mountain; you get to the top, and you get your diploma. But we notice that you have two left feet and can't climb mountains at all well. So if you just sit in class, keep your mouth shut, and don't get into my hair, you'll graduate. We'll *say* you climbed the mountain, even though you didn't really. I suppose there are some other ways up the mountain and some special help we could give you, but we're so busy making hot chocolate for all the mountain climbers that it's better if you just sit there and pretend you're climbing."[1]

This observation summarizes better than many tables and data what the main problem is that faces education today. Essentially it is a question of finding "other ways up the mountain." Almost everyone who is connected with education would admit that there is a large segment of young people—estimates vary from 40 to 60 percent of the school-age population—who do not really benefit from their school experiences. This is not a new finding, but the need to find ways to help these youngsters profit from education has aquired a new urgency.

When the need for laborers and unskilled production workers was high, there was no need to design a curriculum for those students who had neither the aptitude nor the inclination for the traditional school offerings. These students simply left school and found employment. Several forces in our society have acted to make this option unavailable to young people. Mandatory school attendance laws represent the prime example of these forces. These laws are rooted in the most humanitarian of motives. Unfortunately, they cause many youngsters to submit themselves, five days a week, to school experiences which tend to deny their basic human worth and dignity. Too often the "education experiences" of these youngsters teach only that they are less able and less worthy than their more academically gifted classmates.

Even if there were no school attendance laws, school withdrawal would not solve many problems for this type of young person. The labor market has little need for uneducated workers, and employers have been able to require a high school diploma as a criterion for employment. This is not because the diploma indicates the graduate has learned anything, but because it does indicate certain socialization traits such as willingness to accept authority, habits of attendance and punctuality, and an acknowledgment of the goals of middle-class society. In short, the employer believes, probably with some justification, that the high school graduate will be a good worker.

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[1] J. A. Cullinane, "Improving School Programs for the Educationally Neglected," *Guidance in American Education II: Current Issues and Suggested Action*, Ed. E. Landy and A. M. Kroll. (Cambridge, 1965), p. 251.

It is precisely this youngster—the one without any serious personal or social handicaps—that the schools have the greatest potential of serving. With a shift in emphasis and a re-allocation of resources, it should be possible to provide them with a useful education.

While all educators are aware of this group of young people, very little research has been done to try to understand them in any detail. What follows, therefore, is impressionistic. It has been acquired from a variety of observations and interviews of these youngsters in connection with other studies which had different emphases, from discussions with educators, and from various articles (such as the one quoted at the beginning of this chapter). While it is not possible to quote specific studies to document each point, there is a widespread consensus which supports them.

It is important to emphasize that this group is not disadvantaged. The confounding of the problems of poverty, school withdrawal, and race causes many people to associate immediately the group labeled as "those for whom school is nonrelevant" with the Negro and other groups alienated from society.

The framework in which the problem is considered can be described in terms of a four-fold classification: (1) the college bound, about one-third of a normal school population; (2) those with firm vocational goals, about five to eight percent; (3) the disadvantaged, about 5 to 10 percent; (4) those for whom school is nonrelevant, about 40 to 60 percent. This classification does not, of course, hold for all schools. In some large cities, the proportion of the disadvantaged may be over half. In some suburban communities, the proportion of college-bound may be greater than three-fourths. In an average school population the proportions suggested above hold.

Obviously the school experiences for most of the disadvantaged group are also "not relevant," but to combine them with the group which is separated as the "nonrelevants" confuses the problem. The disadvantaged could profit from all the suggestions made for nonrelevants, but they need all these and more too. The disadvantaged need special help to overcome the sometimes chaotic and always deprived conditions of their homes.

The nonrelevants, as a rule, do not need this kind of assistance. They come from relatively stable homes where the necessities, and even some of the extras, of life are provided. The father usually has a regular job. The parents often urge their children to study hard and get a good education, but they do not engage in intellectual activities themselves. The children thus internalize the goal of upward occupational mobility which is reflected in their parents' regular work habits, but they do not see the relevance of traditional academic pursuits to this goal. They see fathers who have steady jobs which yield the money that they someday hope to earn, but they never see these fathers read books, write letters, or work problems in algebra. They ask, in effect, how will the things the school asks us to do make it easier for us to get jobs? The school answers, in effect, stay in school until you get your diplomas and they will make it easier to get jobs. The youngsters agree to the bargain. They come to school, stay out of trouble, do enough to get by, and receive their diplomas. Their high school years are mainly wasted.

By bringing relevance to the activities pursued in high school, this waste could be largely overcome. And relevance could be introduced by finding topics of interest, by showing the interrelationships among various courses, and by stressing the ways in which the skills that the student learns in high school will be used when he takes a job.

Vocational education has many of these desirable features. Its present organization, however, tends to limit it to a small proportion of students. In its traditional form, vocational education is geared to serve those students with firm occupational goals and average or above-average ability. Unfortunately, there are not many students in our high schools who fit this description. The widespread emphasis on a college education as the surest route to a useful and rewarding life tends to cast most of the above-average, and even many of the average students, into the college preparatory curriculum.

A flexible curriculum (as described later), like the general curriculum, serves another function in that it allows the student to defer specifying a vocational choice. Many students at the high school level cannot make such a choice. They have a certain direction and inclination but they cannot specify the particular type of occupation they wish to follow. The selection of a specific program in vocational education involves more of a commitment to a vocational goal than most high school students are able or willing to make. They ask: why spend two or three years learning to do a job that I may not like?

An additional consideration that causes many students to avoid vocational courses is their desire to maintain future options. They probably would not express their reasons in these words, but they are aware that the vocational education curriculum limits the possibilities open to them after high school. Although they are not academically oriented, they feel that going to college would be a "nice thing to do." Many are unwilling to shut themselves off from this possibility. Even many students in the general curiculum hold a vague hope that somehow they will be accepted by a college. These considerations are some of the major obstacles in attempts to attract more students into the traditional vocational education programs.

Is there a curriculum to meet the needs of these youngsters? Can the traditional vocational education curriculum fill this requirement?

CURRICULUM

Vocational education does have something to offer those students who are presently wasting their high school years by enrolling in the academic or general curricula. But this potential will not be realized unless vocational instruction, as it is currently offered along traditional lines, is limited to the talented few. What is needed is a new arrangement for a large group of students in the "gray" area who will be given a chance to explore the nature of many occupations—an arrangement which demonstrates the interrelationship among courses and between these courses and future plans, which provides training in broad occupational skills that can be used in a variety of occupations, and, finally, which maximizes the options open to the student after he leaves high school.

Is such a curriculum possible? It is, and it can be offered with relatively minor reallocations of resources and facilities. The first necessity is a commitment to do something for those students who are usually ignored. Once this commitment is made the necessary, procedural arrangements can be organized.

There is one aspect that is essential—teachers of different courses must be given time in which they can meet together to plan the coordination of their instruction. This coordination must be a continuing weekly activity over the entire school year.

The educational process would no longer be seen as teaching, but instead as providing the conditions for learning. Providing these conditions involves tailoring instruction to the needs and interests of the student, rather than forcing the student to adjust himself to a predetermined curriculum. This is, of course, the issue of individualized instruction (or, rather, individualized learning), which receives more lip service and less effort than probably any other aspect in education.

There are many factors which go contrary to the recognition that each individual has his own learning style: State-mandated courses, college admissions policies for the evaluation of courses, textbook and course materials designed for uniform instruction, and the teachers' own training and experiences. All tend to perpetuate the customary lecture-recitation forms. These factors also tend to continue the compartmentalization of instruction.

The curriculum being advocated stresses individualized instruction across subject lines. Teachers of the traditional subjects would act as resource persons in their own areas of expertise and would guide the study and activity of the students along self-selected lines of interest. The students would proceed at their own learning rates towards goals they had chosen for themselves.

It is expected that at the secondary level much of this activity would be occupationally oriented. During the senior high school period most young people are interested in exploring the nature of various occupations. The curriculum being suggested would give them the opportunity to carry out this exploration. Instruction in other subjects could be related to the central theme of occupational exploration.

It is at this stage that the special style of vocational education would make its unique contribution. The youngster who is essentially nonverbal can be shown the utility of reading when reading skills make it easier for him to follow the instructions for a machine he wants to use. He can be shown how a knowledge of certain scientific laws makes it easier for him to solve the particular problems he encounters. He can be shown how to represent some problems in algebraic or geometric terms and he can see the advantages of manipulating them in this style rather than physically. All of these learning experiences can be shown to be immediately relevant to the problems he is trying to solve. There is a much higher probability that concepts learned in this manner will be retained and applied in similar situations in the future.

Along with an increase in the relevance of the materials studied, the style of vocational education has several additional advantages. It is project-oriented and the student can experience a sense of accomplishment, which producing useful objects yields. Such a sense of accomplishment this type of student rarely or never experiences in the academic classroom. The instructional process of an occupationally oriented type by its very nature tends to be individualized. The instructor works with the students individually as they progress at different speeds on different projects. The mood in a vocational shop is informal and relaxed. Rather than requiring the students to sit quietly, they can move about to obtain needed materials or tools. As a final bonus, the instructor, by observing the student's work, can set standards for disciplined work habits and personal responsibility.

All of these features make the *style* of vocational education the base on which the other features of the proposed Careers Development Curriculum can be built. It should be noted, however, that in this curriculum vocational education is seen as the means by which a variety of educational goals are achieved. It is the means, not a goal in itself. The goal of teaching specific vocational skills to highly motivated students is assigned to the vocational preparation curriculum. The special style and features of vocational education are used to bring interest, relevance, and the opportunity for accomplishment to the Careers Development Curriculum.

It is quite evident that the recognition of the main problem of occupational education, or even the development of an appropriate curriculum, is not sufficient to solve the problem. An important ingredient in the process is the educational preparation of teachers.

TEACHER EDUCATION

To capitalize on the potential inherent in the Careers Development Curriculum it will be necessary to develop teachers who are broadly trained, who are capable of working as members of interdisciplinary teams, and who have an understanding of and sensitivity to the characteristics of students whom this curriculum is designed to serve. The role of these teachers is not so much to teach as it is to establish a learning environment.

A learning environment is made up of many elements, most of which have yet to be specifically identified. The one principle that is most generally accepted by learning psychologists is that behavior that is reinforced tends to be repeated. The problem then becomes one of providing situations which yield reinforcements. These reinforcements can be classified as internal and external to the individual. Internal, or self-administered, reinforcements are those which give the feeling of satisfaction to persons when they complete difficult tasks or "put in a good day's work." External reinforcements include the approval and recognition which one receives from others for his efforts.

The usual student, for whom school is not relevant, receives little of either kind of reinforcement for his school efforts. Since he is not academically adept he has little chance to obtain approval from his teachers or classmates. And, since school activities have little intrinsic interest for him, it is a rare occasion when he will feel satisfied about his own work.

The Careers Development Curriculum is an attempt to bring areas of interest into school activities. This should yield more self-administered reinforcement. However, to provide more external reinforcement, it will be necessary to develop teachers who can accept and approve of the students on their own merits. Most teachers evaluate youngsters on their ability to do college work. This standard is, of course, totally inappropriate to the large proportion of students who require an occupational-oriented curriculum. Teachers who have been oriented to the needs and interests of these students and who are supported by a sympathetic administration can use more appropriate standards.

Both of these elements are essential. Both the teachers and the administration must see the Careers Development Curriculum as a means of meeting the needs of students. If these students do not perform as well as others on a standardized test, the teachers should not be pressured to improve this test performance. If the administration applies such pressure, the teachers will subvert the curriculum and use it to teach for the type of student performance by which they (the teachers) are evaluated and if the students do not respond to this type of instruction—and it is obvious they do not—the teachers will tend to reject the students.

This is the cycle that currently prevails in the typical general curriculum. The teacher is required to teach tool subjects by essentially verbal means to students whose main interests and abilities are in other areas. The students do not respond to the teacher nor do they perform well on those standards by which the teacher's performance is evaluated. The administration evaluates the teacher by standards that he (the teacher) can never satisfy, given the mismatch between the curriculum and the students he must teach. The teacher is thus frustrated in his efforts and blames the students for his failure. He thinks that if the students would only try a little harder he could accomplish the goals the administration has set. The students, in turn, are aware of the low regard in which their teachers hold them. They too are bored and frustrated by the materials the teacher attempts to make them study. The cycle of mutually negative interactions is established and maintained largely because of the inappropriate nature of the curriculum.

The emphasis on an occupationally oriented curriculum may lead some to conclude that the report recommends that it be taught mainly by vocational or industrial arts teachers. This is not so. The traditional vocational educator—the skilled tradesman—is not necessarily the best qualified for this curriculum. The teacher who is qualified to teach high level skills would be most effectively used in the vocational preparatory curriculum. To provide the type of occupational exploration and familiarization envisioned for the Careers Development Curriculum, a broader, less specialized teacher is needed. An essential part of the education of this type of teacher is training in the ability to work with other teachers in order to capitalize on the opportunities for relevance that the occupational orientation yields to the students.

But even appropriate teacher education is not enough. What is required, in the final analysis, is strong educational administration and leadership, financial and public support.

FINANCING

This chapter began its discussion with the question of priorities, recognizing that the demands on the Commonwealth, not only in education but also in other areas, will probably exceed the available revenues. Subsequently, the discussion was concerned with the need to expand certain educational programs or to shift certain emphases in the educational programs. How is any State to meet these increased demands?

First, it is essential that existing educational practices be examined to determine whether the existing funds cannot achieve more, or conversely, whether the same educational objectives cannot be achieved with less money. This may well require a re-structuring of the educational practices as currently carried on.

Second, it should be recognized that, as a result of the growth of the economy of a State, additional revenues can be obtained on the basis of the existing tax structure. In fact, it is estimated that total revenues will rise to such an extent that educational expenditures can increase significantly each year.

Third, careful consideration should be given to the criteria on which Federal funds are allocated to the States. It is possible that with careful analysis existing State funds might go further.

Fourth, the internal operations of schools can be adjusted over time as demographic changes occur in various communities. And this can be accomplished without necessarily incurring extra costs.

PUBLIC SUPPORT

In any discussion of academic versus occupational education the point is usually made that the public views the occupational type of education as "second-class." Parents, it is insisted, want their children to enter—and if possible complete—college. And only a college preparatory curriculum will satisfy the parents.

Yet, in any discussion among professional educators and social scientists there is usually a consensus that the aspirations of the parents are not necessarily the aspirations of their children.

It is clear that this conflict must be resolved. This is, indeed, a great challenge to the professional educators. It is also a great challenge to the State administration which can provide the leadership for an educational program which is consistent with the needs, aspirations, and interests of youth.

Conclusion

What, in effect, is being suggested is a complete restructuring of the educational system. It is a system based on the assumptions that (1) youngsters have a capacity to learn, and do not have to be taught; (2) children have different rates of development and therefore should not be put in the present lock-step of the educational system which makes all six-year-olds, say, be at the same level at the same time; (3) youth, like adults, have varying interests and should be allowed to explore their interests with an intensity and rate of speed determined by them; (4) teachers should be devoting more time to providing the conditions for learning rather than to "teaching"; (5) each child has different experiences, interests, aspirations, and psychological needs which should be exploited and which should provide the basis of learning.

The emphasis, in effect, is on using educational resources for the benefit of youth and not for ease of administration nor for the needs of industry.

THE CHANGING ROLE OF EDUCATION

Mildred Kornacker, Assistant Professor, Department of Sociology, Northern Illinois University, DeKalb, Ill.

If we are to understand the crucial task of education today, we must begin by examining the new relationship of education to our changing society.

The size and centrality of its task make of education one of the most vital social institutions in the modern industrial social order. The unprecedented demands made upon education by society and the vast amounts of economic and manpower expenditures for educational programs and research make it imperative that we reexamine public education within the total context of societal needs. It becomes necessary at this particlar time to focus upon the system as a whole.

Among the questions we must ask are the following: What are the purpose and role of education within the social system today; what should be its ultimate goals; and what kind of product should be produced? Without such overall direction, a meaningful program of education cannot be developed. Only an awareness of the full scope of the societal demands made upon the educational system and of the necessity of attaining these goals will elicit support from the American public for the costs required to carry out the educational tasks.

The main thrust of this paper is to explore the changing role of education in our society. In this process the relationship of education to other social institutions and the impact of education upon the lives of every member of our society will be examined. A secondary objective will be to suggest operational procedures for the development of an educational program on a national scale.

Our entry into the seventies marks not only a chronological change in time but the beginning of an era that will require substantive changes in many of the social institutions within our society. The rapid changes of the past decade must result in concomitant changes in the social organization of the society if we are to keep pace with current values and practices. Our goals and priorities must be reexamined and if necessary redefined if our aims are to be consistent with a technologically changing society.

The educational system within our society is one of the social institutions in need of examination and redefinition. The process of education is currently receiving an unprecedented amount of attention from many segments of our society. Debate over educational policy rages among educators, public officials, industrialists, religious leaders, parents, and students. Educational systems in most major cities are limping due to lack of resources to carry out their programs. More and more one hears statements relative to the inefficiency and incompetence of the educational institutions. The belief is growing stronger that we can no longer make "piecemeal" concessions to change. In addressing himself to the problems of higher education, Dr. James E. Allen, U.S. Commissioner of Education emphasized, ". . . those who are responsible for planning its future should be thinking not in terms of patching up the cracks but in terms of building a whole new structure." There are many who are calling for similar action in elementary and secondary public education. The hearings conducted by this committee reflect the growing national concern about education.

How can we approach this awesome task? It is suggested here that we begin by examining the traditional function of education within the social system. We can then trace the changes taking place within present-day society and the relationship of these changes to the educational process.

Education at any given time or place is in a large measure the product of the civilization of which it is a part. Education both influences and reflects the customs, traditions, and mores of the society. Education is sensitive to the social forces operating within the society. Traditionally, the purpose of education has been to pass on the existing culture to the child. This conserving function has been performed in the past by transmitting a relatively unchanging culture. Today the traditional task of educating must be performed under the new conditions of a highly technological and urbanized society. It is no longer a question of handing down an unchanging or only slowly changing body of knowledge and beliefs. Education in today's society has more to do with the change in knowledge, more to do with the diffusion of knowledge to wider and wider social circles.

There has always been a tendency for educational policy and practices to lag behind contemporary social change. When the lag becomes too great, efforts are made to bring the school up to date by redefining its goals, reorganizing its curriculum, and by changing its practices. This is the period in which we find ourselves today. Yet the dynamics of educational change are to be found not primarily in the work and influence of educational philosophy and reforms but in the social forces operating within the total society.

In an advanced industrial society, the educational system comes into a close relationship with the economy as technology becomes more and more dependent upon the results of scientific research, on the supply of skilled responsible manpower, and consequently on the efficiency of the educational system. As a source of technological innovation so vital to a dynamic industrial nation, education has attained unprecedented economic importance. The educational system is bent increasingly to serve the labor force by acting as a vast occupational recruitment and training apparatus. Education and the economy become more closely meshed until the educational system occupies a strategic place as a central determinant of the economic, political, social, and cultural character of the society.

A new fact has emerged in the modern world. To survive a society must be an educated society. Earlier, the "elite" type of education served the existing purposes, but today an abundant supply of highly educated people is a condition for national survival.

Education then becomes a major form of investment for the economy as a whole. Economists have pointed to the close relationship between educational expeditures of a nation and its gross national product. Many economists have claimed that investment in human capital, i.e., education, often brings a higher rate of return today than investment in physical capital. The new and developing nations have discovered that investment in human capital must often precede in time investment in physical capital. To operate machinery requires a literate and trained personnel. Therefore, the highly educated man has become the central resource of today's highly industrialized society.

Recent studies indicate that differences in provisions of education (whether between nations, regions, or classes) result in differences in the movement toward productivity and prosperity based on modern technology. Social and economic factors of one kind or another will differentiate the academically successful from the unsuccessful. Educational inequalities therefore become, in effect, fundamental determinants of all socio-economic inequality.

Yet the precise contribution of education to economic growth of both the individual and of the nation is still open to question. Exploration is still in its formative stages. We do know, however, that the drastic changes occurring in our industrial society are converging upon education.

As a consequence of the changes in the economic and occupational structure of the society, the uneducated now become a public burden to the social order. In order to participate and be productive in this highly industrialized society, the individual must acquire a high level of literacy. Formerly, the uneducated could enter the labor market through unskilled occupations and in this manner could flow into the mainstream of society. In recent times, this avenue has been closing rapidly. The youth concentrated in the inner cities and slum areas who constitute the largest percentage of school dropouts are particularly vulnerable to the changes technology has made in the labor structure.

The population explosion has confronted our schools with a burgeoning student body. Today we define a high school education or its equivalent as the desired and required goal for all youth, including those of the lowest income group. As they are now constituted, the schools are not prepared to educate large segments of this potential body of students. Almost one-third drop out without completing high school. Thus, at a time when unskilled occupations are diminishing in the labor structure, the number of youth seeking these jobs is increasing.

It has now become the responsibility of the educational system to bring educational benefits to every young person in the society and to prepare him for a productive life. Never before in history has a school system been required to undertake such a formidable task. The right to become a literate, productive member of society through education has become as fundamental as the rights of "life, liberty, and pursuit of happiness." Just as we have had to recognize that "freedom from want" is a basic right so must we give credence to the fact that the opportunity to obtain a relevant education is equally as basic to the citizens of our society.

If a youth has not been prepared to enter our complex labor market, he will eventually find his way into the alternate markets such as crime and delinquency or the welfare rolls. It is a generally accepted economic fact that it costs far less to educate the youth to the point where he has acquired the necessary skills and social orientation with which to enter the labor market than to pay the costs of crime and delinquency as well as the support of correctional institutions or welfare systems. We are only beginning to discover that the social, cultural, and psychological costs of the alienation from society of large segments of our youth may far exceed the economic costs.

These social changes have resulted in demands for "mass" education. We are discovering that the development of a "mass" educational system cannot simply be an expansion or extension of the old "elite" system. These two systems are products of two different types of social structures and therefore differ in the functions they are expected to perform. The public schools are today being held responsible and responsive to all members of the society. The basic costs of this "mass" and "quality" education are mounting.

The schools are viewed not only as the central coordinating mechanism for the development of the youth but also as community focal points. Therefore, many are looking to the schools as an instrument for effecting social change. In a recent statement, James B. Holderman, State of Illinois Executive Director of the Board of Higher Education, raised the question of the appropriate purposes of today's public colleges and universities. He stressed the necessity of developing educational programs aimed at meeting "human needs" and contributing to the "quality of life." According to Robert M. Hutchins, ". . . any educational system reflects the culture. But every good educational system aims to refine and improve the culture." The historic struggle to improve intergroup relations between the black and the white communities has been centered in a large measure within the school system. The racial integration of our schools has become a major national goal.

The changes in society (economic, demographic, social, and cultural), have brought about many changes in the societal expectations of the schools. The educational system today has to cope with an entirely new set of demands. Their present resources, their organizational structure, and their practices are inadequate for this expanded task. In addition, the schools are expected to perform this task within the narrow financial base structured to the demands of a very different period. As a result of the local format of public education, many gross inequalities in the distribution of educational resources have developed.

As a result of the changing and often conflicting demands, consensus as to what constitutes "quality" education is lacking. Criteria for effective "quality" education vary from State to State; from school to school; and from classroom to classroom. In the absence of minimum national standards, it becomes difficult to measure validly levels of performance both on the individual and school basis. Under these conditions, it becomes impossible even to certify the quality of education being conducted.

National interests require a national posture toward educational programs and educational priorities. The political, economic, and social implications of education make it a concern far beyond the scope of individual school systems.

It is within this frame of reference that we must begin to redefine the goals of education on a national scale. Then we can effectively formulate plans and determine the resources that are necessary and the base from which they can be drawn and allocated.

Viewing educational expections and demands within the matrix of national needs exposes the inadequacies and inefficiencies of the uncoordinated approach to educational reforms and changes. Curriculum reforms, reduction of class size, or the increase in teacher's salaries are not sufficient. The integration of our schools, the supplying of school lunches, or even the initiation of a national reading program, as important as these measures are, will not individually bring about "quality" education to the "mass" of our youth. It becomes necessary at this particular time to focus upon the system as a whole and to view education within the total pattern of societal needs.

Minimum standards of performance to be achieved must be established on a nation-wide basis. The economic base for educational support must be broadened. An equitable distribution of both economic and manpower resources must be achieved throughout the country. Because education is a social process impinging upon the lives of every member of the nation, educational priorities, programs, and sufficiency of support should call forth total national involvement.

In order to put into operation the steps necessary for the achievement of a relevant educational program, this paper suggests that a National Commission on Education be established. To succeed, such a Commission should reflect the views and educational needs of all segments within our society. This should include, among others, representatives from education, youth, social sciences, government, industry, labor, religion, and racial and ethnic minority groups. Such a Commission should also reflect the particular needs of the various regional sections of our country.

Among the tasks recommended for consideration and study by this Commission should be:

(a) To determine the educational needs of our society today. This should include not only technological and manpower needs but social, cultural, and human needs, as well.

(b) A minimum program for the fulfillment of these needs. This should include minimum standards of performance both on an individual as well as a school basis.

(c) A set of priorities for the achievement of these goals.

(d) The expansion of the economic base for education and suggestions for the equitable distribution of these resources.

The Commission should recommend the minimum degree of centralization necessary for the coordination of such a program, allowing for full community involvement in the development of their own program to meet their own particular needs.

If we are to achieve creative educational planning, then flexibility and diversity must be maintained. As many patterns of educational programs must be developed as there are general educational needs. While it is beyond the scope of this brief paper to elaborate upon the many varied patterns that may be necessary, there are a few obvious areas that must be mentioned at this time.

Recognition must be given to an educational program for the academically gifted student. The articulate minority of students demanding a more relevant education must also be considered. The aspirations and expectations of the upwardly mobile youth of ethnic and racial origins who are now swelling the ranks of our colleges for the first time must be given full consideration. The development of such an educational program must emphasize the socialization function of education as well as the achievement of academic skills. Attitudes of youth toward social responsibility and their occupational role can well be a function of such a program of education. In our culturally pluralistic society, one critical task of our schools is the enculturation of the common cultural goals of our democratic society.

The emphasis of such a program of education should be directed toward the total involvement of our society in the educational process. The Commission should call upon educators and social scientists to analyze and evaluate current innovative and experimental programs and to contribute their expertise in the development of model programs to be adapted for future use. Industry and labor should be involved in the development of training programs and of opportunities for student work experience. Students who are academically able should be involved in educational tasks such as teaching assistants, homework helpers, or tutors. Volunteers from the ranks of the nonproductive forces of the society should be recruited both from the old and the young to serve as teacher aides and to perform housekeeping chores in the classrooms.

Only with an adequate understanding of the scope of the educational process in our society will it be possible to achieve the complete mobilization of all of our resources so necessary to our educational goals. Establishment of a National Commission on Education is an essential prerequisite to the investigation of our educational goals and the planning of a program to achieve them. The costs of approaching education in a comprehensive manner may be high but it may well be the costs that society has to pay if we are to achieve our national goals and values.

This suggested program of action may appear to be a quite radical departure from our present procedures and practices in education. However, in educational thought today there is a new awareness of the relationship of education to our changing society.

EDUCATIONAL NEEDS FOR THE SEVENTIES

David R. Krathwohl, Dean, School of Education, Syracuse University, Syracuse, N.Y.

Thank you very much for inviting me to contribute to the hearings on elementary and secondary education needs for the seventies. I appreciate being included, because I should like to devote my remarks to an aspect that, although it is an essential ingredient in mounting new programs in the industrial business sector of our economy, too often is given small or no part in our efforts to innovate and devise in the education community. I am especially concerned with the role of research in the improvement of education in the seventies.

It is not always recognized that research has played an essential role in the reformulation of education in the past. Frequently there have been just one or two studies of the work of relatively few men which has had such an impact. But these men have built on the many who have devoted themselves to previous work in an area. We need to realize that the percentage of work that pays off is often small, but the results from some projects may be very large. In a recent conversation with Dr. Jack Getzels of the University of Chicago, he was considering the impact of the early studies of Thorndike near the turn of the century when the conception of why we studied Latin and Greek and mathematics was that of exercising the muscles of the mind. Some very simple studies, which compared vocabularies of students who had studied Latin with those who had not, showed that any increase of vocabulary of students who had Latin was not due to a stronger ability to acquire vocabulary in general, but was limited solely to those words that had Latin bases. While it seems perfectly obvious today, it was contrary to the thinking of the time when the experiment was done and contributed substantially to a rethinking of the content of the curriculum and the purposes various subjects served.

Dr. Getzels also noted that the studies of Lewin, Lippitt, and White of the effect of an autocratic and a democratic atmosphere on the social learning of children resulted in a reconception of the appropriate kind of teaching in the schools and a wide effort to change from autocratic teaching. The modern-day work of Skinner has had, and continues to have, its effect on curriculum.

Except possibly for some of Skinner's work none of the above was supported by government money, for the Federal effort in research in education began only a little over a dozen years ago. Further, it is worth noting that 80 percent of all the funds the USOE has allocated for educational research has been allocated in the last four years. This is an indication of the extent to which the Federal effort has been a "Johnny come lately" on the educational scene. The Federal effort is still less than five-tenths of one percent of the amount of money spent annually for education, whereas in such equally significant fields as health, or in industry, generally, we spend approximately five percent of the funds, or more, on research and development.

Despite the recentness of the Federal effort and the fact that the results of much of it are yet even to be reported (research shows that it takes about four years for research to be developed, completed, reported, and digested in the reviews of research which provide the tamped-down base upon which new development work and new research can grow), there already have been efforts which have had a substantial effect on the educational enterprise.

As only one example, the work of Flanders in developing a way of recording pupil-teacher interaction in the classroom was USOE-supported research. He analyzed the way in which teachers can be taught to make their teaching more effective by means of this device and has analyzed the techniques of effective teachers. This is one branch in the whole series of studies leading to what I suspect will be an important re-conceptualization of the teaching process. Another branch is the work of Arno Bellack, who studied a number of social studies teachers, all teaching the same material, and analyzed the variety of techniques by which they taught—also USOE supported. The work of B. Othaniel Smith looking on the logic of the nature of instruction is another such root. And one could cite a number of other workers; Medley, Mitzel, Soar, Hough, and Amidon, as well as Weber, have all contributed and many of these have had USOE support. Using these techniques, certain typologies of teachers have been shown to be more effective than others. Campbell and Barnes [1] recently brought together a series of studies using the Flanders system and noted that in these studies certain teacher actions affected achievement and attitude development in a variety of subject areas in elementary grade level teaching. Thus, at least at the elementary level, there appears to be consistent evidence, including studies on culturally-deprived youngsters, of the effect of teacher behavior. As these studies are recognized, there is a potentially important new conceptualization of teacher role that will be directly traceable to the USOE unsolicited, sponsored research program.

One effort not mentioned above is a recent volume by Smith and Geoffrey,[2] which is an attempt to conceptualize the workings of an inner city classroom. The importance of this volume, besides its very interesting content, is that it is not a USOE-supported study. Thus its development illustrates one of the more subtle and often overlooked effects of a Federally-sponsored program; it starts people working on problems, even without Federal support, so that the influence of a program spreads considerably beyond the projects in which Federal funds are directly involved. Thus, one effect of the USOE programs has been that of capturing the attention of a number of social scientists, psychologists, sociologists, and, lately, economists. Thus, an effect of a research program in education is to capture important new talent and human resources for education, which markedly strengthens the total research and development effort.

Another dramatic effect has been the creation of a whole new breed of researchers in schools and colleges of education which in the past were solely concerned with teacher training. Though some products of these researchers are fragmented and of poor quality, this was inevitable in developing a new human resource for the field. If even a small percentage of these individuals becomes effective, because of their closer association with the needs of teachers, demands of the school, and the "conventional wisdom" which so often leads to important scientific insight, they bring an important element to educational research.

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[1] Campbell, James Reed, and Barnes, Cyrus W., "Interaction Analysis—A Breakthrough?" *Phi Delta Kappan,* 50 (1969), 587–90.

[2] Smith, Louis M. and Geoffrey, William, *The Complexities of an Urban Classroom—An Analysis Toward a General Theory of Teaching.* Holt, Rinehart and Winston, Inc., New York, 1968.

The dramatic effect of research in other fields leads one to believe that there is no reason to doubt that research will have such an effect on education in the long run. But perhaps it is important to put the educational research effort in perspective with respect to other fields. Agriculture experimental stations were established over a century ago and have had a phenomenal success. Yet, despite all this background of basic research, it still took 14 years to develop a drought-resistant form of wheat suitable for India. The problems of education are no less complex. Further, it is clear that our research efforts are minuscule compared to those of agriculture and our basic research base is even more minuscule with respect to the complexities of our problem. Therefore, a great deal more research must be done before we can expect the kinds of massive pay-offs that have occurred in agriculture. We must markedly increase our efforts in the field of research, but we must not be disheartened if they do not have immediate transfer to the school.

The seventies should bring about a new era in the support of educational research and development. There needs to be a new conception of how to organize to carry it on so that it has the support of practitioners, and all kinds of educators, and of researchers, social scientists, and educational researchers. USOE has begun the development of an important program in the Cooperative Research effort, but the seventies should see it raised above the downward sloping plateau on which it now rests.

Let us make a new beginning. In my presidential speech to the American Educational Research Association last February, I called for the establishment of an Institute for Educational Research such as the National Institutes of Health, which would be a part of the Department of Health, Education and Welfare. It would coordinate a cluster of problem-centered institutes which, like the National Cancer Institute, would be concerned with important educational problems: the finance of education, problems of the inner-city, the administration of education, problems of reading, or however the governing board chooses to conceptualize the priority problems.

Each of these institutes would be guided by a group composed of researchers, consumers, parents, and the interested public. This is a very important aspect, for one would hope to build through these representatives a consensus in the education community about the task, the appropriate approaches to attempt, and the kinds of results that might be expected. All three of these are important in order to prevent finding ourselves, as at present, in a situation where too much is expected too soon from too little effort. Through these guiding bodies, researchers from the social sciences and colleges of education can meet with parents, teachers, and administrators on the firing line, to understand their concerns and priorities. In turn, this latter group can better understand what the researcher is trying to do, how he is trying to do it, and what kind of results to expect, realistically. As a consensus among these groups is built to guide the Institute, they can provide a valuable guide to Congress in their hearings and their attempts to get an unbiased view of the directions, expectancies, and effect of research programs. And they can guide Institute policy in a consistent direction long enough to show the effect of the lines of research that need to be pursued. (The latter has been very difficult in the present situation with changing personnel in the Federal offices and changing priorities of administrations.) Further, such a group could be very helpful in assuring that adequate resources were made available to the program.

There is much to be gained from mounting an entirely new effort in the field of educational research through an organization which can begin anew to develop the confidence of all involved and through such an organization to move educational research to a more adequate level of funding. It should be made clear, however, that no new organization will magically answer the problems unless all concerned are interested in making it overcome the lack of basic research, the inconsistencies in policy that have weakened training programs and bold new institutional ventures like regional laboratories and R and D centers in the sixties. There are no doubt others ways of raising educational research to new heights, either within the present organization or with some different organization. The National Institutes of Education are advanced here as one possible means of obtaining this goal.

Congress should make clear its legacies to the seventies and beyond, be it through this means or through others more acceptable to them. It should include in this legacy an increase in research and development efforts adequate to the size and complexity of the problems in the field of education, and to the extremely critical importance which all of us place on it in the development of our young people, and to the development in the creation of human capital upon which the quality of life in the United States depends.

PRIVATE SCHOOLS FOR THE PUBLIC*

Robert M. Krughoff, Washington, D.C.

In a time when urban public schools are the brunt of much adverse criticism, when they are condemned for inefficiency, inequity, narrowmindedness, unresponsiveness to the interests of the people they serve, and myriad other ills, it is surprising so little attention has been paid to a proposal which may well offer at least a partial remedy for all these ills. The proposal is really quite simple. A city would estimate the cost of a child's education in the public schools and offer the child a voucher, equal in value to that cost, which he might accept and present at a private educational institution of his choice, or refuse if he preferred education in publicly operated schools to anything he could get for the same cost elsewhere.

The schools to which children would take their vouchers presumably in most cases would be operated as profit-making establishments.

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Reliance on profit oriented firms would have desirable effects, as will be seen, but also would probably be essential for a voucher-funded system of any significant size to develop, because charitable capital is not likely to come forth in sufficiently large quantities.

The voucher approach might be introduced on a small, experimental scale, with vouchers made available only to several hundred children who, with their parents, were interested in the experiment. It might then be expanded as rapidly as was deemed advisable. Presumably, especially while the system was still small, a public agency would assist the parents, prospective school operators, and public school authorities in coordinating the public with the private systems so no child would be stranded without facilities open to him.

There is much room for flexibility within the basic framework of a voucher system, depending on the specific values sought to be served. Controls relating to integration, curriculum, and sectarianism might be adjusted to meet a particular city's policies. Parents might or might not be permitted to supplement vouchers with their own funds, according to whether or not a city's policymakers were interested in avoiding economic stratification and thus preserving a leveling or "melting pot" effect in the new voucher school system. The new system might be expanded more or less gradually depending on the importance a community attached to assuring a sizable share of the voucher school industry to indigenous ghetto businessmen, who might be slow organizing investment capital.

This article will examine the voucher proposal and variations on it in some depth to expose its strengths and weaknesses relative to large city public school systems. It should be noted that many of these strengths and weaknesses, for instance, those relating to efficiency, equality of expenditure, integration, and responsiveness to community desires, exist not only vis-à-vis centralized systems, but also with respect to the decentralized systems now so widely advocated.

CHARACTERISTICS OF VOUCHER SYSTEM

Economic Efficiency

A major virtue of a voucher system, the one that endears it to some economists, is that it would enhance economic efficiency; that is, it would cause educational programs, techniques, and resources to be used in amounts which would maximize the satisfaction of the community.[1] An example may illustrate this virtue. The example will show how a voucher system would facilitate efficient decisionmaking on school location, between an industrial area and a residential area, but myriad other decisions would be similarly facilitated, including: field trips versus lab equipment; Ph. D's teamed up with high school graduates versus a uniform staff of college graduates; books versus teachers; windows versus air conditioners; business math versus theory of numbers; men teachers versus women teachers; and gymnasiums versus parks. It must be remembered, of course, that an example can never hope to prove what is always true, but merely seeks to show what might sometimes be true.

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[1] Milton Friedman of the University of Chicago more than a decade ago argued for a voucher system to improve the allocation of expenditures for schooling. Friedman, Milton, "The Role of Government in Education." in *Economics and the Public Interest* (Robert A. Solo, ed.), 123–144 (1955).

Consider the following situation. A thousand elementary school children who live in an industrial area have each been given a voucher worth a thousand dollars which may be used at but may not supplement, any private educational institution they choose. At the moment, no private schools exist, or at least none with tuitions as low as a thousand dollars. Two entrepreneurs (and what is said here of entrepreneurs might also be said of firms) poll the children and their parents (market research) and each decides to build a school for 500 students. One decides to build in the industrial area. From his poll he has determined that 500 of the students would rather attend school in that area than incur the costs of transportation to a better area. The other entrepreneur, in response to the preferences of the other 500 children and their parents, decides to build his school in a pleasant residential area. Each finds that he can build the school plant with an investment of $1 million which he can borrow in its entirety. His annual interest rate and depreciation charge-off amount to 10 percent of the building's cost, or $100,000. He estimates that he can provide all the educational services for 500 children for $350,000.

Assume several conditions respecting the timing of expenditures and income. The interest on the building is paid and the depreciation is incurred only once a year at the end of the year. Expenditures for educational services are made exclusively out of equity and are tied up in their entirety for the whole year. The voucher is redeemable only at the end of the year, for its entire value. These rather arbitrary assumptions give the school enterprise the basic elements of debt and equity financing but simplify computation of the entrepreneur's costs, profit, and profit rate.

The entrepreneur's $350,000 expenditure at the beginning of the year for educational services and year-end expenditure of $100,000 to cover his debt and the building's depreciation give him a total annual expenditure of $450,000, while his year-end revenue from redeeming 500 vouchers is $500,000; thus his profit is $50,000, or 14.3 percent, on the $350,000 equity tied up for the year. It may be expected that this is about the rate of return equity capital receives throughout the city when invested in enterprises comparable in risk to the school business. If the 14.3 percent profit rate were higher than the profit rate elsewhere in the city, presumably other entrepreneurs would be eager to get into the voucher school business and would be willing for the same revenue to spend more on their programs than the two entrepreneurs of this example contemplate spending.

In September the schools open. Assume—with a little imagination—that at the industrial-area school students and parents alike are amazed to see the devastating effects the noise has on learning; several students are almost killed by trucks and falling objects; and a new transit system is established permitting exit from the industrial area with fees only a fraction of what they had been but safety and speed many times greater. Meanwhile, parents and children at the residential-area school are gratified to find how learning flourishes in the company of the cheerful chirrup of birds and the sweet smell of clover; nature walks finally bring to life the pages of the science book, and indeed the poems of Wordsworth and Shelley.

Suddenly, the industrial-area entrepreneur realizes that he can retain his 500 students the following year by increasing his expenditure on educational services by $100,000 but that otherwise he will lose them all to expanded residential-area capacity already being contemplated by the residential-area entrepreneur and several others.[2] Thus, he must spend the additional $100,000 in order to provide education which the children and their parents value as highly as that of the residential-area school. Observe closely his alternatives.

He might decide to keep his present school open by spending the additional $100,000 on services. This would mean committing to the school business $100,000 of new equity capital from either his own resources or those of some other investor. His annual expenditures would be $450,000 for educational services and $100,000 related to his debt and the building's depreciation, a total of $550,000, whereas his total revenue from continuing to educate the 500 children would remain at $500,000. Thus he would incur a $50,000 loss.

Alternatively, he might close down the industrial-area school and either sell or rent the building, say to a necktie manufacturer, thus reducing either his debt or giving himself a new source of income. It is not unrealistic to assume that by thus disposing of his building he might reduce his net expenditures related to the debt and depreciation on the building to $50,000. Simultaneously he would be freeing himself to invest elsewhere in the community the $450,000 of equity which would have been required to keep the industrial-area school open. He might choose to invest $350,000 of it in a new residential-area school or he might choose to put it all in another industry and let some other entrepreneur open a new residential-area school. Whatever he chose to do, he could expect the $450,000 to earn a 14.3 percent return (the rate of return which has been assumed to be forthcoming in the community on investments as risky as the school business) or about $64,300. This return, less his $50,000 expenditure related to the debt and building, would leave him with a net gain for a year of about $14,300.

An entrepreneur can be expected to analyze his alternatives and choose to close down his school when he realizes that by keeping it open he would suffer a $50,000 loss while by closing it he can net a $14,300 gain.[3]

The entrepreneur's decision is important not only to him. It is of immense importance to society. His decision is *efficient* for society. Note that his alternatives of continuing or abandoning the industrial-area school both involve a $450,000 expenditure of his capital. This capital represents a portion of society's resources, its productive capacity. Note, further, that by closing down the industrial-area school he can receive $64,300 more profit than by continuing it in operation. This sum indicates how much more people are willing to pay for the product of his $450,000 capital if he devotes it to some use other than funding the industrial-area school. If people will pay more, presumably they are more satisfied. Thus $450,000, when devoted to something other than funding the industrial-area school, yields $64,300 more satisfaction than it would yield if devoted to funding that school. The entrepreneur, by making the decision most profitable to him, gave society a $64,300 benefit. Meanwhile, the 500 children from the industrial-area school are perfectly happy with their lot; they would just as soon go to a new residential-area school, which will presumably spring up, as go to the industrial-area school with a program enriched by $100,000.

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[2] It is very unlikely, of course, that this realization will actually be either so sudden or so certain.

[3] Perhaps the grossest simplification of the foregoing analysis lies in the assumption that all of the students and parents affiliated with the industrial-area school had identical taste and thus all would transfer unless the industrial-area entrepreneur increased his expenditures on educational services by a full $100,000 or $200 per student. More likely some students would stay if expenditures were increased only slightly, while others would not stay unless the entire $100,000 was spent. But this simplification does not change the basic thrust of the analysis: the industrial-area entrepreneur's wisest decision still probably involves closing down at least part of the industrial-area school. For example, assuming a linear relationship between increase in the entrepreneur's per-student expenditure and the number of students induced to stay and assuming perfect divisibility of the school building for necktie making purposes, it can be shown that the entrepreneur would maximize his profit by attempting to retain only 109 of his 500 students.

Another important virtue of the entrepreneur's decision-making process is that the real value of the industrial-area school facility is revealed. The entrepreneur discovered that the building was not really worth a million dollars—or $100,000 annually—as a place to educate children because to use it meant he would have to spend $100,000 more on services than he would in a residential-area building; indeed the industrial-area building was better at making neckties than at educating children; since, however, it assisted necktie production only to the extent of $50,000 annually, it rented only for that amount. This recognition of a facility's value as a productive factor is important as a means of evaluating the wisdom of capital expenditures, but a similar recognition of the special value of some teachers is far more important; recognition of a teacher's value means he will be given an appropriate salary and will enjoy the feeling that he is being fairly treated.

A public school system cannot be expected to be as successful as the entrepreneur in making decisions which maximize the satisfaction of the public and which value teachers and other productive factors correctly. Suppose a public system were in a situation like that the entrepreneurs were in at the end of a year. How would the public system discover that the residential area was proving to be a more desirable location for schools? The industrial-area entrepreneur could see its advantage because he saw that if an equal per-student expenditure was made on schools in each area, students would transfer to the residential area. But in public systems as they are presently operated free transfers are not ordinarily permitted, certainly not to the point where a facility is vacated. Moreover, a flow of transfers even if it were permitted in a public system would probably not really indicate that the residential area had an advantage, because the expanding school might spend more per student. Public budgeting being what it is, it is extremely difficult to determine the per-student costs of operating two different public schools, and if such costs could be known, it is unlikely that for any two schools they would be sufficiently similar in amount for convenient comparison.

Again, the public system's decision might be expected not to match that of the entrepreneurs because, while the entrepreneurs used polls in a systematic effort to determine where students and parents wanted their schools, public school systems rarely make such a serious effort. An entrepreneur stakes his fortune on how accurately he reads community desires, but one frequent cry against public school systems denounces their failure to counsel with the community and consider its desires. Such a failure might very well make the outcome under the public system even less efficient than if the industrial-area entrepreneur in the illustration had tried to carry on the industrial-area school; the public system, for instance, without feeling out any students or parents, might simply have built both schools in the industrial area.[4]

Finally, hope for the public system to make a wise decision is further diminished by the frequent lack of variety in the approaches public systems try; if the public never considers building anything but industrial-area schools, even zealous poll-taking and the freest transfer policy will never expose the advantages of residential areas. This uniformity is not so apparent in school location, but is often quite evident in a failure to try such varied approaches as lectures and seminars or field trips and lab equipment. Uniformity may result from the administrative simplicity of having all units similar or from a government administrator's resistance to change, prompted by the disproportionate risks change may impose on him personally.

It may seem that the systems analysis approach, in particular Program-Planning Budgeting Systems, would enable a public system to achieve the virtues of economic efficiency enjoyed by a voucher system. But systems analysis has very great limitations. In its effort to compare costs and benefits it suffers the inherent difficulty in the area of public services such as education that benefits, when they cannot be seen in the form of a seller's revenue, tend to be elusive of measurement. First, there is the problem of deciding what are the goals of the system. What do individuals and the public want most for their school expenditure? Is it high reading ability, scientific skills, creative genius, pride, or inner contentment? Even if he can find out which of these things matter to people, the systems analyst will surely find it hard to give them their appropriate relative weight or to say to what extent they are being achieved, because most of these values are inherently difficult to measure. Moreover, people's desires are constantly changing; before the systems analyst has figured out the cheapest way to improve scientific skills, parents, students, and the community may be more interested in creativity. These weaknesses of the systems analysis approach are not shared by a voucher system, where preferences and effectiveness are evidenced by the market. Students and parents may not be able to calibrate the success of a school, but in a free market they generally can choose which of two schools they prefer. Furthermore, they have no trouble adjusting their goals and standards of evaluation to those of the public: they comprise the public.

And the systems analysis approach has other weaknesses. First, to carry on systems analysis is itself costly. Second, even the few public school systems ready to give the approach a serious try will be years accumulating data on which any meaningful conclusions can be based. Third, there is no assurance that a correct decision by an analyst will be adopted by an administrator, who may be swayed by political considerations inimical to the good of the system.

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[4] Even if polls are used, they are not alone sufficient to provide public or private decisionmakers with a perfect decision, precluding the need for the market's muscle to adjust wrong decisions. The trouble with the polls, whether used by school systems or entrepreneurs, is illustrated by the description of the circumstances which befell the industrial-area entrepreneur in his first year: first, it is almost impossible for a person polled to imagine accurately in the abstract what his choices, in this case the schools and their neighborhoods, will in fact be like; second, he may not be as thoughtful or earnest in his response to the poll as he will be when he is faced with a choice of actual schools; and third, situations change—a good choice yesterday may be bad today.

Although the voucher approach thus appears to have substantial economic efficiency advantages over any publicly-operated system, one important assumption implicit in the analysis of the industrial-residential area example should be examined. The analysis assumed that a school system is good if it gives parents and students what they want. Thus, if one of two services was preferred by students and parents, those services were assumed to be socially desirable and worthy of expansion.[5] Two questions may, however, be raised. First, do students and parents really know what is best for them, and second, does giving the individual consumers, the students and parents, what is best for them mean the whole society is getting what is best for it?

With respect to the first question, to assume that a person is the best judge of what is best for him seems consistent with the basic principles of our society; the government allows a person to choose what house is best for him or what dry cleaner to use. But is there a danger that freedom of choice will somehow be distorted in the area of education? There are, of course, some areas where governments have often refused to let individuals decide what is best for themselves; usually this is justified by alleged inadequacies in the information which reaches the individual or by his alleged poor judgment. If the individuals are inadequate for such reasons to judge various schools, at least a partial solution would lie in establishing standards of truth in marketing, advertising restrictions, and a public evaluation service (if private ones do not emerge spontaneously). The utility of parent and student evaluation and word of mouth communication should not, however, be underestimated. A more extreme solution would prohibit use of vouchers at certain types of schools, but a government should be aware of what such a prohibition does to individual freedom.

With respect to whether the program most desired by the students and parents will be the best one for society, it seems the only reason their choice might not be best would be that somehow that choice imposed costs on other people or deprived other people of some benefit. Some choices parents and students make may have such external effects.

A first category of such choices might be illustrated by a parent who preferred a certain possible site for a school without considering the fact that the playground noise would eliminate the afternoon siesta time for a number of neighboring octogenarians. But schools would seem to be less offensive than, say, steel mills in this respect and at any rate, a community should be able to devise a tax or other means to make the parent feel the burden of such lost siestas.

Another category of choices with external effects is illustrated by the parent who puts his son to work in his shop because he thinks what the son can earn now is worth more than the increased earning power the son might accrue by continuing in school. The parent in this situation may not consider the fact that the son will be too illiterate to vote or perform other duties of a citizen intelligently. It is the danger of such socially uneconomic choices which is often used as a justification for free compulsory education. But establishing a voucher system need in no way compromise either the compulsory or the no-charge features of public education. The choices open to a parent need not include complete avoidance of school and, in fact, there may be standards as to what types of school are acceptable, including perhaps some "citizenship" curriculum requirements. Within these limits it seems that a parent's best choice will largely coincide with the best choice for society. It seems likely that he will choose an education for his child which provides at least the basic language skills necessary to citizenship and that he will be as concerned as society is with keeping his child off the welfare rolls.

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[5] The analysis also assumed the entrepreneurs to be motivated largely by a desire for profits. Entrepreneurs, and surely voucher school firms as are run by managers who do not share in profits, may sometimes seek objectives other than profits. A voucher school manager may, for instance, be more interested in the power which is associated with size, or in paying his personnel generously. But the example's emphasis on the profit motive was not significantly unrealistic. Profits are ordinarily the essential step to a firm's expansion and power, and a generous personnel policy may turn out to contribute more to effectiveness and profits than to reserving for the manager a place behind the Pearly Gates. See Caves, Richard, *American Industry: Structure, Conduct, Performance* (2nd ed.), 4–5 (1967).

Managerial Efficiency

In addition to enhancing economic efficiency, a voucher system would enhance what might be called managerial efficiency. This effect is attributable in part to the impact of the profit motive on decision-makers, in part to a simplification in administrative structure, and in part to other factors.

One influence of the profit motive may be to spur voucher school administrators, at least those with a share in the business, to work harder and more creatively. For such an administrator, extra effort may mean cut costs and correspondingly increased profits in his pocket. An administrator working for the government may also be rewarded for hard work but standard pay scales may prevent a proportionate pecuniary response.

Another impact of the profit motive in a voucher system may be to increase the probability that new and better educational ideas will be conceived. With a publicly-operated system the reward for brilliance and effort in conceiving an improved idea is likely to be intellectual and moral satisfaction and an opportunity, perhaps grudgingly given, to pass the idea along to a public administrator, but there is unlikely to be an additional economic reward except to school administrators, professors of education, writers, and a few others, and even to them the reward may not be in proportion to the merit of the idea. Under a voucher system, on the other hand, everyone, in addition to enjoying intellectual and moral satisfaction, can realize economic gain by plying his genius to conceiving a new idea. If he gets such an idea he may sell it or he may start a school and use it to make a profit.

A final effect of the profit motive inherent in a voucher system may be an improvement in the quality of decisions. This is because the costs considered by a manager under the voucher system when he chooses between two alternative courses of action are likely, at least if he has a share in profits and particularly if he fully owns the business, to correspond closely to the costs to society. Thus, if a course of action entails a high risk of failure and the possibility of only a low gain, his practical business decision not to risk his resources is good for society, which also wants resources conserved. On the other hand if the risk is low and possible gain high, his business decision to take the risk is socially desirable. In contrast, the costs considered by the public administrator may have no such correspondence to society's interests. Financial gains and losses for him are measured by such factors as promotion, demotion, and prestige, and those factors may not increase or decrease in proportion to the savings he achieves by altering a school's program. This lack of proportionality may cause him to err on the side of boldness or on the side of timidity, although as it happens, there is reason to believe that in large school systems the factors the public administrator considers are generally weighted toward timidity, or standing still, since administrators can usually explain away inaction by alleging that the power to act lies in the hands of others.

Like the profit motive under a voucher system, the decentralization which a voucher system implies might have managerial efficiency effects.[6] Under a centralized system, the chief administrator of an individual school becomes familiar with the needs of his school as he attempts to carry out his duties, but when he decides a change would be desirable he often must request authority from someone higher up. The decision, if it is easy or relatively unimportant, might be made at that level; otherwise it might be referred to a still higher level. Naturally, the top administrator cannot make every decision; so questions are screened at lower levels or particular questions are generalized at lower levels into questions of policy for the top level. But every level which must pass on a change, and in a centralized system there often are several such levels, must familiarize itself with the facts (although sometimes this may be done cursorily with the danger of resulting bad judgment). If the decision were decentralized at the level of individual schools, the administrator of each school, who must at any rate be familiar with the school in order to carry out decisions, could simply make more decisions himself. No one else would need to learn the facts. Moreover, there would not be the delay which the heirarchy imposes nor the inflexibility which general policy rulings often create. While there are some decisions affecting the whole system which by being made at a high level relieve administrators at the school level of a considerable burden, it appears in many urban school systems that an undue number of decisions, although they have no significant effects outside individual schools, nonetheless cannot legally be made at the individual school level.

The decentralization implied by a voucher system arguably, however, has some managerial inefficiencies. Some of these inefficiencies are more apparent than real. For instance, there is the argument that a centralized system has an advantage in providing some services such as reading advisors and purchasing agencies because such services can be provided most efficiently in units too big for an individual school to utilize. But if the time of, say, a special reading advisor cannot be fully utilized by a single school, the school can contract with an independent reading advisor for part of his time, leaving other schools to contract for the rest. The costs in time and effort in negotiating such contracts probably would not be large. On the other hand, the seeming inefficiencies of decentralization may in some cases be real. There may be a few minor services best provided by a central public agency. Research and development of curriculum and materials are two, perhaps the only two, such services. It would be difficult for a private organization to get an adequate profit from such endeavors because any curriculum a private organization developed and sold to a single school could then be easily pirated by others. Copyright protection would probably not be enough. But to provide such services centrally and publicly does not require that the entire school system remain publicly operated and centralized.

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[6] Adoption of a voucher system will lead to at least some amount of decentralization unless all voucher schools end up in the hands of a single, centralized, giant corporation, a situation unlikely in the light of the degrees of centralization seen in such other consumer businesses as drug stores, super markets, car dealers, and dry cleaners, and even more unlikely in view of existing and possible legal limits on agglomeration.

A voucher system might improve managerial efficiency not only through its inherent profit motive and decentralization, but also though its effect on school size. It may be that schools the size of the public schools are the most efficient size, although it is interesting that existing private schools have ordinarily not grown to that size. There are arguments in favor of size: for instance, it permits specialized teachers and such capital assets as gymnasiums to be fully utilized. On the other hand, size may increase transportation costs; duplicated effort in a chain of command may impose decision-making costs similar to those existent in a centralized school system as a whole; there may be a depersonalization of the staff; the children may suffer psychological problems when neither they nor their parents can become closely familiar with all of the facilities or the entire staff and administration; teachers and students may waste time learning the location of, and traveling between, various facilities or the various administrators and teachers responsible for particular functions; and, perhaps most important, in a large school with large crowds in halls and cafeterias and a large absolute number of potentially explosive personalities, administrators may become so obsessed with the need for rigid discipline to prevent violence that creative, flexible programming becomes impossible.

The virtue of a voucher system in relation to the size question is that private, voucher-funded schools can be expected to grow to an efficient size for the same reasons they might end up locating in residential rather than industrial areas; that is, they will find the size that draws the pupils. There is, however, no such assurance that public schools have decided, or will decide, on the best size and there are at least two reasons to think they have not. Both reasons are based on the fact that public schools might be forced to be the size they are by self-imposed restrictions. First, except in limited instances, the public schools have always followed a certain pattern in drawing their student bodies: a geographic district is defined and virtually everyone of an age within that district goes to the same school. Since everyone must go to the school in his district, the public school system must provide in every school all the variety the school system intends to offer its students. If the school system has decided to permit specialization in music, every school must offer training in that specialty. Naturally a school with 30 students is not very economical because there might be only three students interested in specializing in music and both the music teacher and the music equipment would have to sit idle most of the time or move from school to school. A private school, on the other hand, could opt for small size if it seems desirable and need not hesitate to specialize since it could draw 30 students interested in its specialty from a much greater population in a broad area. A second reason to think public school size may be the inefficient result of a self-imposed limitation at least in large cities is the possibility that it is easier to operate a large system centrally if the units are large. Cities having chosen centralization of authority, it is hard to imagine their seeking to administer thousands of 30-pupil schools.

A final aspect of managerial efficiency assured by a voucher system is the elimination of any need for protection against political patronage. The New York City school system, with its board of examiners charged with imposing objective standards on teacher hiring, represents the costly kind of effort big city school systems have sometimes felt obliged to expend to avoid patronage. Such screening services not only have operating costs, but may seriously diminish the quality of personnel. Standardized tests are often not very effective at discerning such qualities as warmth, commitment, and energy, which are basic to good teaching or school administration. The owner of a voucher school can be trusted to hire on the basis of merit even when he is not confined to considering objective test results, because he has to hire the teacher whose services are valued most highly by parents and students or he will take a personal financial loss.

Community Attitudes

At least as important in an evaluation of the voucher proposal as the various considerations of efficiency so far discussed are a number of other considerations which do not lend themselves easily to such systematic analysis. First among these is the effect a voucher system would have on community attitudes. The voucher system would, of course, radically change the relationship between schools and parents. The new relationship would be contractual; parents would bargain for, and feel entitled to, a certain type and quality of educational services and they would be free if such services were not forthcoming to seek better services elsewhere. Contrast this with the situation in a big public school system where if a parent is dissatisfied he has no alternatives and, because he is trapped and the system is so large, he has very little leverage to force improvement. Moreover, he is likely to find it difficult even to find the right ear to complain to when, as is often the case in large centralized systems, each educator is able to put the responsibility on the next one's shoulders. The effect the voucher system's responsiveness would have on economic efficiency has already been examined at considerable length, but still to be explored are the more direct effects the voucher system would have on the feelings and performance of parents and children by relieving the unresponsiveness of present systems and giving each parent some individual bargaining power.

A parent, like anyone else who deals with a system which does not respond to his wishes, must feel insulted and degraded by the experience. Moreover, if parents feel the schools are not treating their children fairly or meeting their needs, there is likely to be resentment. These sentiments, even if they had no further consquences, would be undesirable, but, in fact, they have further consequences. Remote consequences may include many forms of unsocial behavior, and one immediate consequence may be disruption of the school system and perhaps violence. Whether the boycotts and assaults by members of the community on teachers and administrators not infrequently reported in big city papers can be entirely blamed on inadequacies of the school system is an open question, but the very least that can be said is that community spokesmen frequently point the blame at these inadequacies.

Unfortunately, the effects of unresponsiveness are not confined to adults. If adults come to regard the schools as an unresponsive enemy, their attitudes will affect the children. A child may have difficulties developing good habits and values relating to classwork or social behavior when in effect he is being asked to emulate a teacher whom at home he has come to see as an enemy. Lack of respect for school authorities may make disobedient or disruptive behavior more appealing to him. A young child may feel especially anxious at being separated from his mother and sent to school if, because of community attitudes toward the teacher, it is difficult for him to regard her as a substitute for the mother. Finally, a feeling that he is helpless in school, that neither he nor his parents can provide protection or otherwise have a dependable effect on what happens to him in school, may diminish a child's own self-esteem, his sense of justice, and the motivation provided by the certainty of just reward. Indeed, a study headed by James S. Coleman reports: "Attitudes such as a sense of control of the environment, or a belief in the responsiveness of the environment, are extremely highly related to achievement." [7]

Damage to a child's education results not merely from attitudes he may acquire toward his school, but also from the loss of an essential ingredient to his successful education: cooperation between parent and school. A parent who dislikes the school or does not approve of the school's method or subject matter may not support class work at home by, for instance, checking that homework is done and done well, sacrificing television time to let his child see something relating to a teacher's program, or giving his child supportive experiences, such as a trip, related to school lessons. There may be similar results with respect to the child's conduct. A lack of parental trust in a teacher's judgment as to the propriety of a child's conduct, or a parent's simple embittered refusal to do anything the school wants, may mean the school cannot resort to the home for serious discipline or count on a follow-up at home on such efforts as steering a child away from a gang or checking on dope consumption.

But the psychological effects of a voucher system go beyond merely negating alienation and animosity; giving a parent power over a voucher perhaps worth a thousand dollars may have a substantial positive effect on his self-esteem. Whether he participates with a school's parent association in efforts to affect the education of his child or he simply enjoys the feeling that as an individual he can protect his child and affect the child's education by transferring or threatening to transfer the child, a great step toward human dignity is taken from the helplessness and hopelessness he very likely suffers in present urban systems.

Integration

The voucher approach is for the most part neutral with respect to integration. But two aspects of the approach hold some promise for increased integration if policymakers deem such an increase desirable. First, voucher schools may be so much better than existing urban schools that the white students presently departing urban public schools for private schools or suburban schools will be induced to stay on. Second, freedom to go to school anywhere in a city will permit children formerly confined to racially and economically homogeneous neighborhoods to seek schooling among children from other neighborhoods.

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[7] Coleman, James S., *et. al.*, *Equality of Educational Opportunity*, 325 (1966).

The free transfer aspect of the voucher approach may act more or less strongly for integration or may diminish integration depending on what controls are imposed. A possible control to enhance integration would be to require every voucher supported school to admit students purely on the basis of date of application unless a school could bear the burden of proving a student's failure to meet its established, government-approved entrance requirements. Such a policy might, of course, be moderated at times to prevent rapid shifts in the racial balance of a school as its popularity rose and fell among particular racial groups.

A voucher system with the single control of basing admission on application date would give minority groups an opportunity to integrate, although perhaps with considerable transportation and psychic costs. This opportunity might dispell some resentment existent today. And it would have the virtue of permitting members of these groups to choose which is more important, integration or the security, sense of community, and convenience of staying within their own neighborhoods. If, however, the decision of many members of these groups was to stay in their own neighborhoods, integration would suffer. Then would arise the question whether the opportunity to integrate is enough or whether efforts should be made to induce blacks and whites who prefer their own neighborhoods to leave them.

If inducement is deemed desirable, a quota system might be imposed on all voucher-supported schools. In order to meet their quotas, schools might be forced to compensate children, black or white, for leaving their own neighborhoods and thus incurring inconveniences, fear, and other discomfort. Such compensation would reflect a true cost of any given level of integration, a cost which is never isolated when the public schools make their efforts, however small, at integration. This cost should be reflected in an increase in the city's educational expenditures and consequently in the voucher.

Stimulus To Achieving Appropriate Allocation Among Children

In a public school system, because of the difficulty in allocating some expenditures to a particular unit for accounting purposes and because of the inaccessibility to most people of unit-by-unit budget data, it is hard to tell how much is being spent on each child. Equality, of course, may not be desirable, but the voucher system has the virtue that it makes any divergence from equality in the public's expenditure obvious. If one child gets a $1,000 voucher and another gets $1,200 the difference is apparent. Of course, the fact that the public by giving equal vouchers, say $1,000 apiece, spends equally on two individuals is not a guarantee that the value of the education they receive will be equal since the schools they choose might not give an equally good bargain. One school, for instance, might spend only $500 per pupil while the other spends $900. But it is reasonable to assume that two people with equal vouchers will shop around until they find approximately equal bargains.

Not only does a voucher system make it easy to discern whether students are being treated equally, it makes it possible, where this is considered desirable, to provide additional expenditure, by increasing the voucher, for precisely the children who need it, for instance, the handicapped or children with social and economic disadvantages. In a public school system, on the other hand, it is sometimes difficult to tell what portion of an expenditure on, say an extra facility, is enjoyed by a special group and what portion by other users.

Opportunity for Indigenous Ghetto Businessmen

Introducing a voucher system would open up a large new industry which might provide special business opportunities to indigenous ghetto businessmen. A voucher school system offers particular promise for such businessmen for two reasons. First, many schools can be expected to locate in the ghettos close to their students, whereas other industries, especially nonservice industries, often locate outside and export to the ghettos; the location of business in the ghetto is good for the indigenous businessmen because in the ghetto he very likely has the competitive advantage of familiarity and amiability with his neighbors and knowledge of the community's resources and peculiar dangers. Second, even if voucher schools turn out to be located outside the ghetto, the indigenous ghetto businessman may be better able to attract ghetto students because they may particularly trust him.

One limitation on the value of the schools as a business opportunity for ghetto businessmen is the likelihood that such businessmen will be unable to come up with sufficient capital to move into the industry. To minimize prejudice from this factor, the number of students able to get vouchers, and thus the voucher school industry, might be enlarged gradually.

A FEW UNANSWERED QUESTIONS

The foregoing explication of the virtues of the voucher approach has left some questions, doubtless troubling ones, unanswered. At least the most significant of these questions should be examined.

Cost Questions

Despite the arguments which have been given to show the efficiency of the voucher approach, several practical cost questions may create doubt as to whether a voucher system can really give children an education better than they could get in the public schools at a comparable cost.

A first cost question is whether allowing profits to entrepreneurs will require that a city either increase the school tax burden or reduce the amount spent on education. It must be acknowledged that the value of each child's voucher will have to be greater than the present per-student expenditure of the public school system concerned in order to permit an entrepreneur to match the publicly operated system's per-student expenditures on education while permitting him to realize a reasonable profit. But this apparent increase in per-student expenditure should not really constitute a significant additional burden on taxpayers unless the voucher school entrepreneurs are demanding more monopolistic profits than are available in the average investment opportunity. The reason the school tax burden would not be significantly greater can easily be seen. In a publicly-operated school system the capital needed for educational services would have to be put up by the taxpayers at the beginning of the year. Under a voucher system the entrepreneur, by providing his own capital, relieves the taxpayer of this burden until the end of the year when the voucher is redeemed. Taxpayers are free to invest, presumably in average industries, and, in the aggregate, earn a return in the course of the year as large as the return the entrepreneur will expect to have included in his voucher. Thus the profit demanded by the entrepreneur simply reimburses him for putting up needed educational capital so taxpayers can put their capital elsewhere.[8]

To the extent that the voucher school industry might be expected to yield more monopolistic profits than the average investment opportunity, the foregoing defense of the profit element is weakened. If profits are monopolistic, entrepreneurs will get more than a reasonable return on their capital and the taxpayer's burden will have to be increased in order to encourage entrepreneurs to maintain per-student expenditures on educational services at the current public school level.

But it seems unlikely that voucher entrepreneurs will enjoy such monopolistic profits, since each voucher entrepreneur is likely always to be faced with a number of existing or potential competitors. Unless voucher school facilities are substantially larger than facilities in present public systems (and, as has been seen under the heading, "Managerial Efficiency," there is good reason to think they will be smaller), a number of facilities will be available to any child without significant differences in transportation costs. It is important here that a few cents of transportation cost, which might prohibit shopping very far afield for a low-cost purchase like a pack of chewing gum, will not deter such shopping for education, a higher cost item.[9] Of course, the existence of numerous facilities will not prevent monopolistic profits if they are owned or controlled by only a few persons. But there is no reason to think voucher school facilities are more likely to come under common ownership or control than other types of facilities in other industries where taxpayers might invest the capital released to them by adoption of the voucher system. Moreover, it should be remembered that any fear that the voucher school market will be controlled by dangerously few competitors might be partially eliminated by legally limiting the portion of his consumer market any entrepreneur might serve or by setting an absolute limit on the voucher school capacity he might control, although this legal assurance of competition is weakened by the fact that such legal standards, even when applied to a new industry from its inception, would have substantial costs of enforcement.

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[8] The only new burden the taxpayer may suffer under the voucher system results from the fact that the return he can earn with his freed capital will be subject to Federal income tax; so, when he pays school taxes to cover the entrepreneur's expected return for putting up school capital, his own net return on the freed capital has to be supplemented to make up for the Federal tax he has paid. This Federal tax problem could in time be eliminated if voucher schools were made Federally-tax exempt or if the Federal government woud make grants-in-aid to cities according to the number of students a city has in voucher schools. Such Federal concessions would simply put cities with voucher schools on an equal footing with cities which avoid Federal taxes by running their schools publicly.

[9] It is also important that the competition faced by an entrepreneur is not limited to the school facilities his students might be expected to consider traveling to. A much more remote school could force the entrepreneur to improve the quality of his service through a sort of chain reaction: as a remote entrepreneur improves his service, students will move to his school from nearby schools, which in turn will be forced to improve their service to draw new students from other schools; the initial quality improvement will thus have radiating effects which reach distant entrepreneurs.

Even if existing competitors are limited in number, voucher school entrepreneurs will always be restrained from demanding monopolistic profits by the threat of potential competitors. Since reputation of existing firms might be more important to customers in the education industry than in many industries where it is easier for the consumer to judge a product on its face, potential entrants might be somewhat discouraged by the costs of building a reputation. But at least established schools in the voucher school industry will not enjoy such absolute advantages as patent rights and exclusive access to resources, the firmest protections against entry. Nor are economies of scale likely to be as great as many industries enjoy; so new firms will not be forced to bear great costs in collecting capital and will not have to enter competition with existing firms on such a scale that some firm, either new or old, must ultimately fold in a battle for the market.

Although the burden to the taxpayer of maintaining current levels of educational expenditures is thus not likely to be increased by the need to provide voucher system entrepreneurs with a return on their capital investment, are there others ways in which a voucher system might increase educational costs? What about the waste of existing public facilities when students begin to leave the public system for voucher schools? What about the inefficiency of having two systems serve the same area? And what about the fact that private entrepreneurs generally do not enjoy a Federal tax exemption for bonds they may issue or a local tax exemption on their property?

Public school buildings need not be wasted even if so many students go off to voucher-financed private schools that overcrowding is relieved and some public schools are beginning to grow empty. The public facilities must simply prove their value on the market. Presumably when the public system discovers that some of the facilities are under-utilized, it will relocate students in order to empty completely a few of the facilities. The empty facilities will be offered to the new voucher-supported school enterprises and to other business enterprises which may buy or rent them for their own use at a price which will suggest the value of those facilities to an educational program or other business activity. Admittedly the price of a building may often be low relative to its original cost, but this will often indicate simply that the original investment in a building of that size, design, or location was unwise.

The simultaneous existence of two school systems (voucher and public) in a given area will increase the transportation costs of bringing a given number of students to a particular school. In effect, the population either system serves is diluted by the existence of the other system. But this slight inefficiency of a dual system does not seem to merit great concern. No second system, i.e., voucher system, will emerge unless it, even contending with a dispersed population, can provide a more desirable education than the original system. Moreover, a dual system may again become virtually a single system if almost everyone finds schools in the new system more desirable.

The absence of a Federal tax exemption may make borrowing for capital improvements more expensive for a voucher system than for a public system. But it should be recognized that the Federal tax exemption does not make a public system less costly to society; it simply means that a portion of the borrowing cost of a city is transferred to the Federal taxpayer. It is true that for voucher schools to have a fair competitive chance either the voucher must include funds to cover the full cost to society of borrowing or the low, municipal interest rate must be somehow extended to the voucher system entrepreneur. But there are at least two ways this might be done without making the local taxpayer lose the benefit of the Federal exemption, at least if a voucher system grew to a substantial size. One possibility would be for a city to get special relief from Congress to compensate for the fact that the interest exemption was not being used; or another possibility would be for a city itself to borrow and then, through a bank-like public agency, lend money to voucher school entrepreneurs at an interest rate reflecting the municipal bond tax exemption.

The burden of local property taxes which private voucher supported schools might have to pay while public schools do not will increase the costs of voucher schools but it will simultaneously increase public revenues, which can be used to increase the size of the voucher.[10]

Problems Related to Supplementation

If under a voucher system parents were allowed to supplement the voucher, two differences from present public school systems would arise which might be considered problematic by some persons: public expenditures on schooling might be excepted to increase and the public schools would be less effective as "melting pots" of various economic strata. The reason for these differences can be seen fairly easily. Some parents, presumably those with the lowest income, would

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[10] A brief comparison of private and public schools in New York City might give some "empirical" reassurance regarding costs. Because of the extreme difficulty of getting cost data for private schools, comparison will be limited to 1967–1968 data for two private schools and the New York City public schools. Indeed, the data for one private school, the East Harlem Block School, relates only to the first grade, while that for the other private school, St. David's, relates to Grades 1 through 8 and that for the public schools relates to Grades 1 through 9. St. David's School is generally regarded as a very good school; it is located in a fashionable residential area on Manhattan's East Side. The East Harlem Block School was in 1968 a new and somewhat experimental school in East Harlem, a disadvantaged area; it received the majority of its financial support in grants from the Office of Economic Opportunity, but it was operated by private individuals.

The chart shows estimated total budgeted expenditures for the three schools except (because of the great difficulties in making an acceptable estimate) on debt service and, in the case of the East Harlem Block School, rent on buildings. Various adjustments are made on the different lines to make the schools comparable.

Budgeted per student expenditures (estimated, 1967–68)

	Public schools	East Harlem block school	St. David's
Unadjusted	[a] [illegible]	[b] 1,120	[b] 1,200
Reducing number of teachers to approximate public school pupil/teacher ratio (that is, 19:1)	[illegible]	[illegible]	[illegible]
Eliminating teacher cost component	[illegible]	[illegible]	[illegible]

[a] Student-teacher ratio approximately 19:1.
[b] Student-teacher ratio approximately 9:1.

Sources: Public school figures from New York City Board of Education, "*Budget Estimate (Summary) 1968-69*" (1967). East Harlem block school figures from interview with Anthony Ward, director (1968). St. David's figures from St. David's School, "*Financial Report 1967*" (1968).

not supplement at all. For such a parent, once his child was receiving as much education as his voucher would purchase, say $1,000 worth, the additional education which an additional dollar would purchase would not be worth the food, or housing, or whatever, which that dollar might buy. Other parents, presumably wealthier ones, whose children are now in the public schools, would accept the public contribution and add to it. Under the present system, such parents are forced to choose between settling for public school education or giving it up entirely if they wish better education. The cost of an extra $100 worth of education is very high if you must not only pay $100 but you must also give up, as the present system requires, $1,000 worth of public education, but the cost would be just $100 under a voucher system which permitted supplementation and would surely be paid by parents wealthy enough to consider that $100 worth of education more important than additional food, housing, and other items.[11] This added expenditure would mean the children of wealthier families would go to different schools from those of poorer families and the public school "melting pot" would be compromised. Another group of parents, those who now are paying the full bill to send their children to private schools and thus giving up public support entirely, would presumably continue to keep their children in separate, especially fine schools. But these parents would demand vouchers if such vouchers could be supplemented, and they would thus, of course, increase public expenditure on education.

Regarding the harm supplementation would cause to the "melting pot," little can be said except that the "melting pot" may, because of the homogeneity of many big city neighborhoods, not be much of a reality even in present public school systems and that the "melting pot" situation might be approached, if considered sufficiently important, by giving larger vouchers to poorer children. As for the fact that if vouchers could be supplemented public educational expenditures would be increased, since parents now using private schools would demand their share, some question at least arises as to why they should not have that share. By effectively raising the cost of education to the rich relative to the poor, both the present public school system and a voucher system with nonsupplementable vouchers make the onus of having children for the rich relative to the poor greater than it would be under a system with supplementable vouchers. Arguably, the effect nonsupplementation has on the equalization of wealth could better be had by simply increasing taxes on the rich, those with children and those without.

If the adverse "melting pot" and increased expenditure effects of a supplementable voucher are considered sufficiently undesirable, it would not be difficult to impose a rule that the books of schools receiving vouchers would have to be open to inspection like the books of firms expected to collect a sales tax. Donations and other possible means of avoidance might be prohibited and the extent to which schools could charge extra for books, vaccinations, lunches, transportation, and other such items would have to be defined. Enforcement of a nonsupplementation policy would be enhanced if the body charged with preventing social forms of discrimination were also charged with preventing any discrimination which was explainable on the basis of some form of voucher supplementation; when it is clear that other children must be admitted for only the price of a voucher, parents will probably not be tempted to pay extra for their own children.

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[11] A parent's inability to increase the in-school expenditure on his child without foregoing public education entirely not only suggests, as the text points out, that there are parents who would readily supplement a voucher; it also suggests a reason that independent private schools in any city currently spend more per student than that city's public schools. They spend more because they have to be substantially better than public schools in order to induce parents to forego a free public education. In other words, since the cost of getting any special private school advantages presently includes the full value of the public education that must be foregone, the special advantages must be quite large—indeed, so large that they could not be provided even by a very efficient school without spending substantially more than the public schools spend.

Although supplementation can thus be prohibited, a nonsupplementation policy would, like present public school policy, prevent some people from spending as much as they desire on education and would force them to spend on something they like only second best. Thus less education and more of other things would be produced than individual parents acting freely would choose.

Educational Standards

Another question which may make the voucher system troubling to some persons concerns what will happen if the private schools which spring up to take advantage of the vouchers have low standards. This is really not a serious problem. A public agency can be charged with setting standards in such matters as curriculum, duration of school attendance, and teacher qualifications. Any imposition of standards, of course, has the danger of preventing schools from providing some types of education properly desired by students and parents or preventing use of the best methods and resources for providing a given type of education. In short, excessive standards could create a voucher school system just as narrow and unresponsive as publicly-operated systems tend to be.

Religion

A final issue which may raise serious doubts is whether the voucher system would strengthen sectarian schools. A first observation is that a voucher system probably need not have any effect on such schools. It seems qualifications to receive voucher funds could be so prescriptive in terms of curricula and uses of school facilities that religion could be eliminated to whatever extent desired. Thus religious schools probably could be forced to remain independent and self-supporting as they are today. Whether, on the other hand, the state if it so desired could constitutionally permit use of vouchers at institutions where religion is taught is another question. In support of such a possibility, it may be argued that since each child will simply receive a voucher to take to an educational institution of his choice, his choice of a religious school is not analogous to a direct payment to such a school by the State; the State does not decide where the expenditure will go and thus cannot of its own volition strengthen any particular sect—or, indeed, all sects. The religious neutrality of the State would be further reinforced if voucher-receiving institutions which also carried on religious activities were required to keep careful records showing that voucher funds were not being used to support such activities. The recent Supreme Court decision in *Board of Education* v. *Allen* [12] held that the Federal constitution permits States to allocate free textbooks for each child to whatever school he attends; arguably a voucher is nothing more than book allowance, plus teacher allowance, plus etc.

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[12] 88 Sup. Ct. 1923 (1968).

CONCLUSION

The virtues of the voucher approach and the urgent need for rejuvenation in urban education combine to make a strong case for adopting a voucher system. It seems many city school districts might have the power to begin putting a voucher system into effect immediately, at least on a relatively small experimental scale. Expenditure of funds for this purpose would have to be justified under a general power possessed by most school boards to do what is "necessary and proper" to supervise, manage, and develop a public school system. The expenditure on a small experiment with the voucher approach arguably would shed light on inefficiencies within the public system. The courts generally find a power "necessary and proper" if its absence would create some degree of inconvenience (and this degree seems to vary) in the school systems concerned. Arguably, every year as the inadequacies of urban education are magnified the need for experimentation with new approaches, including the voucher approach, becomes more acute, and the power to experiment grows. Assuming, however, that Local enabling legislation is not construed broadly enough to permit desired expansion of a voucher system, the obvious avenue is to State legislatures. With increasing pressure on them to do something about urban schools, legislatures may welcome the many virtues of the voucher approach.

MANPOWER NEEDS, NATIONAL GOALS, AND RESEARCH PRIORITIES IN VOCATIONAL-TECHNICAL EDUCATION

Leonard A. Lecht, Director, Center for Priority Analysis, National Planning Association, Washington, D.C.

I.

The 1968 Vocational Act Amendments are symptomatic of a growing national concern with priorities in vocational-technical education.[1] This concern is evident in the increase in Federal support authorized for vocational education. It is apparent in the emphasis in the Amendments on serving the needs of persons in the economically and socially disadvantaged groups in our society. The interest in a reordering of priorities in underscored by the repeated references in the Amendments to the need for more and more effective planning to relate State and local vocational education programs to the anticipated manpower requirements and job opportunities at the national, State, and local levels. Implementing this shift in priorities will involve a search for new perspectives in vocational education.

There has been considerable controversy in the past decade concerning the role, the adequacy, and the objectives of vocational education. Much of this questioning arises from changes in the larger society, and from the need to define responses by the educational system to these changes. The forces making for change in vocational education are the same forces which have been influencing national social policy in many areas in the past 10 years. They involve the growing backlog of unmet needs for many kinds in virtually every large city in the United States, along with the problems created by the undesirable byproducts of technological and economic advance such as air pollution and suburban sprawl. As we become a better educated and more affluent nation, we demand more services to narrow the gap between the potentialities of modern technology, medical technology, for example, and the actual level of services available to most Americans. We become less willing to tolerate the continued existence of islands of poverty and unemployment in the world's most productive and prosperous economy. To cite an instance, most of us are appalled by the statistic indicating that in the high prosperity year 1967, between a fifth and a third of the nonwhite teenagers in our country were unemployed.[2]

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[1] This paper is based on a presentation at the National Conference on Research—1968 Vocational Act Amendments conducted by Oklahoma State University in February 1969.

These and similar changes are responsible for a far-reaching search for greater relevance in education. The search for relevance is the motive force in the 1968 Amendments, as it was in the enactment of the Elementary and Secondary Education Act a few years ago, and in the establishment of programs such as Project Head Start. This keen interest in relevance in vocational education shows up in the legislative stipulations spelling out the uses of the Federal funds. Up to 25 percent of the funds to be alloted to the individual states, according to the Amendments, are to be used for programs aimed at benefitting the economically, socially, and culturally disadvantaged.

If "relevance" and "priorities" are to become the basis for planning in vocational education, what does this mean at the level at which most program decisions are made, the State and local level? Relevance in this kind of planning clearly means assigning a considerably greater weight in program planning to future career opportunities and manpower needs. But what are the reserach strategies which can enable us to translate manpower information into vocational programs? What do we know, and what are the gaps in our knoweldge in making this translation?

The educator searching for information about future manpower needs is likely to encounter a mountain, and sometimes a jungle, of estimates indicating projected requirements and job openings for cooks, nurses' aides, truck drivers, nuclear technicians, and others. This mountain of information requires a map if it is to make sense. To appraise the information, the user needs a framework relating the projections to their purpose and their limitations.

An aphorism attributed to the American philosopher, Whitehead, can serve as an initial guide to the use of manpower projections. It reads something like this: "Seek simplicity, but mistrust it." Whitehead's aphorism can be rephrased to read: "Seek manpower projections, but use them with caution." Manpower projections, like other economic projections, can be useful in indicating strategic areas of change to be taken into account, or the implications of alternative developments in the economy for manpower utilization, for example, the effects of either an increase or a decrease in defense expenditures in the coming decade. However, we are many light years away in the social sciences from being able to predict the future 5, 10, or 15 years from now. This is true for manpower needs, and it is also true for stock prices.

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[2] *Manpower Report of the President*, 1968, Table A–13, p. 237.

The phrase, "change agent," is often found in the literature dealing with planning in education. A new way of approaching a problem, a fresh perspective, can be a potent instrument for change. This paper suggests such a perspective as a framework for organizing information about future manpower needs and their implications for vocational-technical education. It is concerned with the impact of the pursuit of national goals for manpower requirements and for education.

II.

Terms such as "goals" are sometimes taken to refer to abstract purposes divorced from everyday practice. A sales clerk who sells cereal to a housewife, a teacher who instructs a class, a doctor who treats a patient, a businessman who decides to build a factory—all would be astonished to be told that they were engaged in the pursuit of national goals, namely, increasing the standard of living, promoting education and health, and increasing the economic strength of the country. They would be as astonished as the man who was told that he had been talking prose all his life.

Yet, pursuit of the nation's goals can significantly affect manpower requirements and job opportunities in many occupations. The impact of Medicare and Medicaid in enlarging needs in the health occupations, or the role of the space program in the early 1960's in increasing requirements for engineers, scientists, and technicians, offer recent and sometimes striking illustrations.

The National Planning Association has been engaged in a sustained program of research for over five years to indicate the dollar costs and manpower requirements for achieving an illustrative series of national goals in sixteen areas embracing virtually all aspects of the private and public economy.[3] These goals include education, health, research and development, social welfare, urban development, and many other areas.

The nation's choice of priorities has many implications for research strategies in vocational education because the kinds of career opportunities available in the next decade will be substantially affected by our society's needs and aspirations, and by what we do, individually and collectively as a nation, to implement our goals. To cite an instance, the rapidly growing areas of employment opportunity are the professional, technical, and the service occupations. About half of all the employment growth in the next 10 years is expected to take place in the three occupational areas. These career opportunities will largely grow out of the pursuit of three goals—health, education, and research and development. Similarly, the extent to which job opportunities expand in the building trades in the 1970's will depend, to a large extent, on the pace at which the nation moves to implement priorities in rebuilding cities. According to NPA's goals studies, achieving goals in urban development in the mid-1970's could create jobs for as many as 10 million persons. They would be employed in virtually every occupation listed in the Census statistics.

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[3] Lecht, Leonard A., *Goals, Priorities, and Dollars—the Next Decade*, the Free Press, 1966; and *Manpower Needs for National Goals in the 1970's*, Praeger, 1969.

To bring out these consequences of pursuit of national goals, Table 1 indicates the estimated manpower needs in the 1970's per billion dollars of expenditure for health and education, considered for this purpose as one goal, and for urban development.

TABLE 1.—ESTIMATED MANPOWER REQUIREMENTS PER BILLION DOLLARS OF EXPENDITURE IN 1975 FOR SELECTED GOALS[1]

[Number employed in thousands]

Occupational category	Health and education goal	Urban development goal
White-collar workers	64.0	34.7
Professional and technical	45.5	8.5
Managers and self-employed	2.5	10.3
Clerical	13.3	12.2
Sales	2.7	3.7
Blue-collar workers	15.8	53.7
Craftsmen and foremen	6.9	27.4
Operatives	7.2	17.7
Laborers	1.7	8.6
Service ocupations	22.4	3.7
Farm occupations	.7	1.1
Total	102.9	93.9

[1] Refers to final demand expenditures in 1962 prices.

If our nation were to assign a high priority to objectives in health and education, most of the job openings created would be for professional workers, such as doctors, teachers, and nurses, for technical workers, e.g., medical technicians, and for service workers. Many of these jobs would represent employment in State and local government agencies since State and local governments provide most of the public services in the two areas. Much of the employment for service workers would be in established fields. Hospital attendants or cooks are illustrations. Employment would also grow rapidly in the newly emerging human service occupations, such as nurses' aides, teachers' aides, or neighborhood workers. These human service occupations are so new that they do not figure as yet in the Census occupational statistics, the basic source for manpower information. While increases in employment of 100 percent or more are anticipated in many of the paraprofessional occupations, the vocational-technical education system is just beginning to introduce programs preparing young persons for careers in these fields.

Shortages of professional workers, together with expansion of services, are likely to create many openings for service and technical workers in health and education in the next 10 or 15 years. In a study the National Planning Association is undertaking for the U.S. Office of Education, we have estimated that if the nation assigns a high priority to goals in health in the 1970's, a reasonable assumption in the light of the experience of the 1960's, there would be career openings for an estimated 2.3 million workers performing direct health services as nonprofessional technicians, subprofessional assistants, and nonprofessional aides.[4] All told, enrollment in vocational education programs in the health occupations amounted to nearly 84,000 in fiscal year 1966. This figure represents an increase of over 40 percent beyond the 1964 level. Yet the 1966 enrollment amounted to a little more than 1 percent—1.4 percent—of all enrollments in vocational education programs in that year.[5] The annual completions of vocational education programs, as indicated by the preliminary 1967 figures, amounted to as much as three-tenths of the estimated annual average number of career openings in the coming decade in only two of the health occupations, practical nurses and dental assistants.

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[4] Teeple, John, *Implications of Career Openings in Health Occupations for Priorities in Vocational-Technical Education*, Working Paper prepared by National Planning Association for the U.S. Office of Education, October 1968.

Over half of the job openings in urban developments, 54 percent, are expected to represent opportunities for blue-collar workers, primarily skilled craftsmen and semi-skilled operatives. These include many occupations for which vocational preparation is already offered through the vocational education system for high school students and young adults. Given the nation's commitment to rebuilding our cities through public and private programs of many kinds, and the anticipated growth in population and economic activity, "there is every indication," according to the President's Council of Economic Advisers in their 1969 report, "that the demand for construction in the 1970's will be of unprecedented magnitude."[6] Discussing the legislation enacted by Congress in 1968 defining national goals in housing as involving the construction of 26 million dwelling units in the coming decade, the Council adds that "success in meeting the national target for housing recently adopted by the Congress will depend upon the availability of enough skilled workers."[7] In the light of this outlook for workers in the construction trades, it is apparent that the research strategies to develop State and local vocational education systems which are responsive to manpower needs in the 1970's will be the strategies aimed at increasing enrollment in the programs related to construction to at least as high a figure, for example, as the enrollment in fields related to agriculture.

III.

Since manpower needs for the different goals vary widely, the educational needs they imply also differ markedly. Pursuit of some goals would largely create job opportunities for persons with a high school education, or even for school dropouts. Concentrations on other goals would mean many more career openings for graduates of junior colleges and of four-year colleges and universities. These differentials are illustrated in Table 2, again with reference to urban development and to health and education considered as a single goal.

TABLE 2.—ESTIMATED DISTRIBUTION OF EMPLOYMENT BY LEVEL OF EDUCATIONAL ATTAINMENT IN 1975 FOR SELECTED GOALS

Years of schooling completed	Percent distribution of employment	
	Health and education goal	Urban development goal
Less than 4 years of high school	26.0	43.0
4 years of high school	29.0	35.5
1 to 3 years of college	14.5	12.0
4 years of college or more	30.5	9.5
Total	100.0	100.0

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[5] "General Report of the Advisory Council on Vocational Education, 1968," in *Notes and Working Papers Concerning the Administration of Programs Authorized Under Vocational Education Act of 1963*, U.S. Senate, Subcommittee on Education, Committee on Labor and Public Welfare, 1968, p. 105.

[6] *Annual Report of the Council of Economic Advisers, 1969*, January, 1969, p. 104.

[7] *Ibid.*, p. 105.

About four-fifths of the job openings created by urban development programs would represent openings for persons with a high school education or less. Other two-fifths of these openings would be made up of jobs which are frequently held by "dropouts," that is, by persons with less than four years of high school. The vocational education planning to prepare persons for jobs associated with urban development would be concentrated on high school programs, and on special programs for out-of-school adults who did not complete high school. While a larger percentage of the young people entering the labor force in the 1970's than in the 1960's will be high school or college graduates, it would be unreasonable to expect that virtually all persons reaching maturity in the next decade will have completed at least four years of high school. In addition, the educational level of the older workers will be considerably less than that of the new entrants into the work force. Expanding programs related to construction for persons who were no longer full-time students would actively involve the vocational education system in helping to cope with the problems of two of the major "left out" groups in the central cities—the frequently unemployed and socially disorganized teenage dropouts, and the older workers who were deprived of educational opportunity in their youth.

While many of the job openings for the health and education goals also involve programs in the high schools, or special programs for adults, almost half of the job openings in these fields, 45 percent, can be expected to figure in areas in which higher education as the typical educational requirement. The planning for many of these job openings would be concentrated on introducing or expanding junior college vocational programs for subprofessional and technical workers such as teachers' assistants or medical technicians. Much of the planning to meet manpower needs in health and education would be devoted to preparing teachers, doctors, and similar professionals in four-year colleges and universities. Concentration on health and education would create over three times more job openings for these college graduates than a comparable concentration on urban development priorities.

IV.

More than ever before in American history, national policy is committed to creating more and better employment opportunities for persons in the economically and socially disadvantaged groups in American society. Expanding and upgrading job opportunities for individuals in these groups through education and job training has become a strategic ingredient in our programs for coping with poverty. In a society such as our own in which education and training, occupation, income, and social status are so closely related to one another, State and local planning in vocational education becomes an important dimension of the overall planning to upgrade the income and status of persons in the "left out" groups in the nation.

The potentials for planning vocational education programs concerned with career openings for the economically and socially disadvantaged created by the pursuit of national goals are illustrated by the projections in Table 3. While the disadvantaged include persons from all races, a long history of an absence of equal opportunity in hiring and skill training make the potential contribution of vocational programs especially significant for Negroes, American Indians, and many other nonwhites. The table, therefore, indicates the estimated employment opportunities for nonwhites in the 1970's generated by a billion dollars of expenditure for the goals considered in the earlier tables, health and education, and urban development.

TABLE 3.—ESTIMATED EMPLOYMENT FOR NONWHITES PER BILLION DOLLARS OF EXPENDITURES IN 1975 FOR SELECTED GOALS [1]

Occupational category	Number employed (in thousands)	
	Health and education goal	Urban development goal
White-collar workers	5.1	1.8
Professional and technical	4.0	.4
Managers and self-employed	.1	.3
Clerical	.9	.9
Sales	.1	.2
Blue-collar workers	2.1	7.3
Craftsmen and foremen	.6	2.6
Operatives	1.1	2.6
Laborers	.4	2.1
Service occupations	6.1	.9
Farm occupations	.1	.1
Total	13.4	10.1

[1] Refers to final demand expenditures in 1962 prices.

A high priority for programs in health and education would create more jobs for Negroes and other nonwhites than a similar priority on other goals such as urban development. Many of these positions would be in professional and technical occupations in which nonwhites already are relatively well represented. Elementary school teachers and medical technicians are instances. Even more job opportunities would become available for nonwhites in service occupations, occupations such as practical nurses or teachers' aides, for which training can be provided in the high schools, special adult courses, or community colleges. Planning to introduce and expand vocational programs in health and education both serves community demands for more health and educational services, and it can help to prepare a substantially larger number of persons in the "left out" groups in America for job openings in these fields.

Concentrating on objectives in urban development would create fewer job openings for nonwhites for each billion dollars spent than in health and education. However, far more of these job openings would represent opportunities in skilled and semi-skilled blue collar occupations as craftsmen and operatives in fields related to construction. At present, nonwhites are heavily underrepresented in many of the more skilled building trades such as electricians or plumbers. If nonwhite males had been employed in these crafts in the mid-1960's in the same proportion they made up of the total male civilian labor force (10 percent), there would have been 32,000 more nonwhite carpenters, 31,000 more electricians, and 15,500 more plumbers and pipefitters.[8] It would be difficult to meet the large increases in many of the skilled building trades which would be generated by high priority programs for rebuilding cities in the 1970's unless substantially more opportunities are created for Negroes and Puerto Ricans to gain admission to the education and training programs, and to the unions, which are typically the prerequisites for entering these occupations in the urban centers. Again, the vocational education system can anticipate manpower needs and serve young persons in the economically and socially disadvantaged groups by expanding and upgrading its trade and industry and technical programs in the large cities to reach many more young persons, white and nonwhite, from low-income backgrounds.

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[8] *Manpower Needs for National Goals*, op. cit., p. 90.

V.

This recital of the relationship between manpower needs, national goals, and planning in vocational-technical education raises a series of questions for State and local planners. Will the vocational schools in the central cities be among the best in each State or will they continue, in many cases, to serve as dumping grounds for students who are ill-served by the present more academic curricula in other types of programs? Will the vocational programs in rural areas be responsive to the occupational needs of the cities which will provide employment for the large numbers of young people who migrate to the urban areas after completing their education in rural areas or in small towns?

Planners who seek to use manpower projections as an aid in determining priorities in vocational education encounter a series of problems. Most of the program planning is done at the State and Local level. Most of the manpower projections provide data on a national basis. Similarly, manpower projections generally provide indications of employment growth. Yet the number of career openings in any field in the coming decade will include both the opportunities arising from employment growth plus those created by the need to replace attrition losses. These problems require further consideration if manpower projections are to be used effectively in developing State and local vocational programs.

The current occupational projections are usually available only on a national basis because the basic information required to prepare them is largely generated on a national basis, usually from Census sources. Since the industrial structure of the individual states often differs markedly from the national pattern, career opportunities in individual states may also diverge markedly. The projections which are relevant for centers of manufacturing activity, such as Michigan or Pennsylvania, would differ significantly from the projections which were useful for agricultural states such as Iowa, or for areas dominated by white-collar employment, such as the District of Columbia. Each, in turn, would vary from the national pattern. National projections, accordingly, offer little more than a point of departure for planning vocational education programs on a State and local basis, and in some instances they would be misleading.

Development of State and local area manpower projections constitutes a high-priority need if more effective research strategies are to be devised in vocational education. The 1968 Amendments recognize this need, and they provide for support to the U.S. Department of Labor to prepare these projections. But it is likely to be some time before a suitable methodology is adopted and the information is generally available.[9] Once the information is available, some knowledge of the problems encountered in preparing these projections is needed to provide guidelines indicating their uses and limitations.

There are no easy answers to the problem of developing State and local projections. School districts and States are political and administrative rather than economic units. Many of the people who live in New Jersey, Connecticut, or Long Island, for example, work in New York City. Therefore, the State plans for New Jersey and Connecticut, and the local vocational plans in Long Island, should allow for the future job openings in New York City as well as in their own areas.

An economist discussing an abstruse, highly mathematical theory which he disliked commented that, "It is better to be vaguely right than precisely wrong." To disregard State and local differences from the national projections or to ignore labor markets which transcend State and local boundaries is often to be precisely wrong. To take them into account, allowing for our imperfect knowledge, will often help vocational education planners to be vaguely right in their plans, and, hopefully, even better.

The available techniques for preparing State and local manpower projections cover a broad range. At one extreme, they are based on highly sophisticated input-output models providing a comprehensive representation of the industrial structure of an area, and showing its relationship to other areas in the nation. The input-output models constitute the most reliable basis for projecting overall manpower needs in a variety of occupations in the area to which they refer.

While input-output models are beginning to be developed for many metropolitan areas, and for some States, they are complex and costly to prepare. Where systematic information of this type is not at hand, which is typically the case currently, less elaborate methods involving heavy use of informed judgments can often help planners in being vaguely right or better. Some of these methods are based on the reports of job vacancies prepared by the U.S. Employment Service. Others rely on techniques of interrogation of panels of knowledgeable persons to determine the consensus of judgment, or the range of opinion, about an uncertain future event. One of the best known of these methods is a technique devised originally by the Rand Corporation for the U.S. Air Force and appropriately known as the Delphi method.

Most manpower projections are incomplete for an additional reason. Typically, they refer to the employment growth in an occupation over a period of time. Vocational planners are interested in career openings, and these openings are caused by attrition losses as well as by employment growth. In occupations which are growing slowly, and especially if there are many older workers in the field, replacement needs in the next decade will frequently exceed the employment growth. Printing craftsmen can serve as an example. In our own projections, employment growth for printing craftsmen is expected to amount to about 3 percent of the mid-1960's level, a growth of 8,000 in the 1965–1975 period. Job openings for printing craftsmen, because of replacement needs, are expected to reach as high as 82,000 in this same period.[10] At present, we do not have adequate estimates of the attrition losses in most non-professional occupations. Until this data is available, a rough approximation which can be useful in vocational education planning is to utilize the information which is available by age group and sex for the entire labor force as a proxy for the attrition losses by age group and sex in individual occupations.[11] The age and sex distributions for specific occupations are published by the Census.

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[9] A technique for preparing State and local projections based on national occupational patterns in each industry was published by the Department of Labor in 1969 in its report, *Tomorrow's Manpower Needs*. See U.S. Department of Labor, Bureau of Labor Statistics, Bulletin No. 1606, *Tomorrow's Manpower Needs*, 1969, Vol. 1, *Developing Area Manpower Projections*.

Emphasis on the gaps in our manpower information diminishes the certainty with which we can plan rather than diminishing the need for planning. The large role assigned in the 1968 Amendments to relating vocational education programs to the anticipated career opportunities and to the needs of the "left out" groups presents an opportunity and a challenge. The challenge and the opportunity are to make vocational education more relevant in a society in which technology, needs, aspirations, and career opportunities are rapidly undergoing change. The research strategies which will be significant in the next 10 years are those which are concerned with the impacts of these changes for priorities in planning programs in vocational-technical education.

THE NEED FOR EDUCATIONAL DIVERSITY

Gerald S. Lesser, Professor of Education and Developmental Psychology, Harvard University, Cambridge, Massachusetts

This volume of papers explores the critical educational needs in the decade to come. In my view, one demand supersedes all others; the need to create an educational system that provides a sufficient diversity of opportunities and programs to fit the diversity of children in our pluralistic society. This demand for an educational system that contains as many different options and alternatives as we have different children may sound bland and rather pious, but—if we accept for the next decade this premise of educational diversity—education in this country will be transformed to a degree unprecedented in our history.

For well over a country, the central function of public schools in our egalitarian society has been clear: to help to assimilate the waves of immigrants to this country, to provide them with the basic skills necessary to lead productive and dignified lives. The public school was conceived as a leveling, equalizing institution, which sought, democratically, to provide the same training to all. Slowly, we have begun to realize that our view of education somehow must reconcile two of our societies' fundamental premises: equality (which inevitably reduces differences among individuals and groups) and freedom (which often produces and enlarges differences among individuals and groups).

What is the proper function of education in our society? Our historical position has stressed *equalization* and has held that education should provide equal opportunity for the *equal* development of all individuals and groups in our society. Another position stresses the value of *diversity* and *pluralism* and holds that education should provide a freedom of opportunity for the *maximum* development of each group or individual, whether or not group differences remain, enlarge, or disappear as a consequence. What should our educational system aim to achieve: to make all groups and individuals equal or to provide freedom for the maximum development of each group or individual, even if inequities persist or are magnified?

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[10] *Manpower Needs for National Goals, op. cit.*, p. 35.

[11] Attrition rates for individual occupations prepared on this basis are available in *Tomorrow's Manpower Needs*. See footnote 9.

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This tension between the *equalizing* or *maximizing* roles of the public schools presents some familiar dilemmas. Is it compatible with the democratic principle of equality to identify for special educational treatment children who are gifted intellectually? Is it compatible with equality to provide special, additional compensatory education for children born in poverty to enable them to compete for jobs and thus escape the poverty of their parents? My contention is that we now must progress beyond the traditional principle of equalization to build a diversity of educational opportunities and programs to fit the diversity of intellectual abilities, motivations, and ambitions among children—a diversity of opportunities that will permit a true freedom of educational choice for each child and parent.

Creating such diversity of educational approaches would be a massive and radical undertaking for our society. Our traditional, equal educational system for all has become immensely large, but because it is a single, uniform system for all, its dimensions still can be held clearly in mind. But to create an educational system that is sufficiently diverse to accommodate the full range of diversities among our children is a mission of enormous complexity. The need to begin our progress toward such diversity in education perhaps is illustrated best by considering the proper role of education for children from the many cultural groups that constitute our pluralistic society.

Education as an Equalizing Force

In a massive, national survey of education entitled *Equality of Educational Opportunity* (1966), James Coleman and his associates failed to find what they expected to find, i.e., direct evidence of large inequalities in educational facilities in schools attended by children from different majority and minority groups. The study had set out to document the fact that for children from minority groups, school facilities are sharply unequal and that this inequality is related to student achievement. Their data did not support either conclusion. What small differences in school facilities did exist had little or no discernible relationship to the level of student achievement.

Starting with these facts, Coleman argues that inequality of educational opportunity still prevails, because white and Negro (and other minority-group) students do not display equal levels of educational achievement when they complete high school. *Ipso facto*, the schools are unequal, despite the absence of direct evidence of such inequality.

Coleman's argument starts with the premise that the proper function of the schools in a democracy is to produce *equal* achievement levels among different groups in our society. Arguing from this premise, the demonstrated fact that Negroes and whites are unequal in level of educational attainment testifies to the inequality of educational opportunities provided by the schools. That is, by definition, schools are designed to make groups equal. They do not do so. Therefore, schools are unequal in the educational opportunities they provide. Indeed, following this argument, the single decisive criterion for judging equal educational opportunity is that the average school performance of all groups be equal.

Coleman makes his position clear by saying that the role of the schools is to "make achievement independent of background" and to "overcome the differences in starting point of children from different social groups." This position is shared by much research on the "disadvantaged," where the objective is to seek means to reduce the discrepancy in achievement levels between "deprived" and non-deprived" children.

At one level—the "equal-footing" level—Coleman's line of reasoning seems to epitomize logic, common sense, and compassion. It seems to ask only that we give children from "disadvantaged" backgrounds a fair chance—that through the educational system, we educate all children to a point of equality in school achievement so that all groups can compete on equal terms for jobs or future educational opportunities.

However, it is my contention that analyses based upon the principle of equalization do not go far enough, do not tell the whole story or consider all the evidence, and therefore are incomplete and perhaps misleading. Equalization, by itself, fails to consider either the role of diversity and pluralism in our society or several alternative definitions of the function of schooling.

The important role that diversity and pluralism should play in the discussion of educational goals is illuminated by the results of recent investigations of the different patterns of mental ability in children of different cultural groups and social classes, briefly summarized on the following pages.

Differing patterns of mental abilities in children from different social-class and cultural groups

Our research goal has been to examine the patterns among various mental abilities in young children from different social-class and cultural backgrounds. We accepted the definition of intelligence which postulates diverse mental abilities and proposes that intelligent behavior can be manifested in a wide variety of forms, with each individual displaying certain areas of intellectual strength and other areas of intellectual weakness. The basic premise of this research is that social-class and cultural influences differ not only in degree but in kind, with the consequence that different kinds of intellectual skills are fostered or hindered in different cultural environments.

Four mental abilities (verbal ability, reasoning, number facility, and space conceptualization) were studied in first-grade children from four cultural groups (Chinese, Jewish, Negro, and Puerto Rican). Each cultural group was divided into two social-class components (middle and lower), each in turn being divided into equal numbers of boys and girls. To trace the stability over time of the different patterns of mental ability for each cultural group, the same children were retested five years later, when they were in sixth grade.

This research clearly indicates the effects of cultural-group background upon the patterns of mental abilities displayed by the children: the patterns of intellectual strengths and weaknesses are distinctively different for each cultural group (Lesser, Fifer, and Clark, 1965). For example, Jewish children showed their greatest intellectual strength in verbal ability, their weakest ability in space conceptualization, with reasoning and number skills intermediate between verbal ability and space conceptualization. In contrast, Chinese children showed their weakest intellectual skill in verbal ability, their strongest in space conceptualization, with once again reasoning and number skills being intermediate. Negro and Puerto Rican children also show patterns of abilities distinctive to their cultural group and different from the other groups.

Beyond the striking differences among cultural groups and their particular patterns of intellectual strengths and weaknesses, another clear finding emerges: cultural-group background not only affects the pattern of mental abilities, but, in addition, once the pattern specific to the cultural groups emerges, social-class variations within the cultural group do not alter this basic organization. For example, the mental-ability pattern peculiar to the Chinese children (low verbal, high space conceptualization) is almost identical for both middle-class Chinese and lower-class Chinese children, with the middle-class Chinese children operating at a generally higher level. Similarly, the mental-ability pattern peculiar to the Jewish children (high verbal, low space conceptualization) is almost identical for both middle-class Jewish and lower-class Jewish children, with, once again, the middle-class Jewish children operating at a generally higher level.

To summarize our findings briefly: (1) a distinctive pattern of intellectual strengths and weaknesses exists for each cultural group, and (2) the particular pattern peculiar to each cultural group appears in both the middle-class and lower-class samples of that cultural group. These results now have been replicated in a subsequent study (Stodolsky and Lesser, 1967). In addition, by tracing our original samples of first-graders through the sixth grade, we also know that the particular pattern peculiar to each ethnic group remains stable over time. The patterns of intellectual abilities do not weaken or disappear, but remain as distinctively different for each cultural group as the children get older as they were when the children entered school.

How do these results illuminate the two alternative views of education discussed earlier: (1) education as an *equalizing* force, or (2) education as a force for the *maximum* development of each group or individual, whether or not group differences remain, enlarge, or disappear as a consequence?

Education as a Maximizing Force

From the research findings on the development of patterns of mental ability peculiar to each cultural group, what would we predict would happen if we modified the social-class characteristics of all our lower-class families—elevating the jobs, education, and housing of the lower-class families in all cultural groups? Within each cultural group, we would expect to elevate the mental abilities of the lower-class children to resemble those of the middle-class children in that cultural group, making them more similar to their middle-class counterparts in level of ability. In this sense, education would be equalizing children, making groups of children more similar, removing the differences in mental ability associated with differences in social-class position.

Thus, by elevating the occupations, education, and neighborhoods of our lower-class families, our data would lead us to expect an increased resemblance of mental-ability levels for children within each ethnic group. To the extent that level of performance on mental abilities predicts school achievement, such equalizing would narrow the range of differences in school achievement among social-class groups, and certainly would be consistent with our societies' democratic principles.

To this juncture, our analysis supports the argument that education can function to equalize development and achievement, suggesting that elevating the social-class characteristics of lower-class families would contribute to a greater degree of equality in intellectual abilities.

Now, how does the other finding—of distinctive patterns of mental abilities for each cultural group—affect the alternative views that education should function as an equalizing force or as a maximizing force that permits each child to reach his optimal potential? Since the data on patterns of intellectual functioning indicate that once the mental-ability pattern specific to the cultural group emerges, social-class variations within the cultural group do not alter the basic pattern, this finding suggests that lower-class children whose social-class position is elevated will still retain the distinctive mental-ability pattern associated with their cultural group. The implication is that no matter what manipulations are undertaken to modify the social-class positions of children within a cultural group, its distinctive pattern of abilities will remain.

This observation leads to the central assertion of this paper: that the most urgent educational need in the coming decade is to create an educational system that provides a sufficient diversity of opportunities and programs to fit the diversity of children in our pluralistic society, thus maximizing each child's educational potential. To accomplish this massive task, we must reconstitute a traditional educational system that grew in response to the earlier, out-dated need to provide an equal, standard education for all. Instead, we now must ask: how can we provide maximum education for each child, even if individuals and groups become more different in the process? How can we build that educational diversity that will fit the diversity of our children's abilities, interests, and ambitions?

The Search for Educational Diversity

How can we create an educational diversity to match the diversities among our children? How can we make maximum educational use of the particular, distinctive pattern of abilities that each child possesses? Definitive answers to these key questions do not yet exist, but research on matching instructional strategies to individual differences among children suggests some directions in which we must move. For example, in teaching mathematical functions to children strong in space conceptualization but weak in numerical facility, we use graphical presentation; in teaching the same concept to a child strong in number facility but weak in space conceptualization, we rely on the manipulation of numbers in a tabular form (Stodolsky and Lesser, 1967). Or, in teaching beginning reading skills, instruction using the "phonics" method seems more effective with children of low initial language ability, while higher-ability children profit more from the "whole-word" method (Snow, 1968).

As a final example, students who are high in "conceptual level" profit more from flexible instructional programs that permit them to act autonomously, while students low in "conceptual level" progress more effectively in clearly-organized, strucured instructional programs (Hunt and Hardt, 1967).

Other research studies which suggest ways in which instruction can be diversified and adapted to student characteristics have been summarized elsewhere (Lesser, in press). What is needed at this point is extensive research to identify and explore the mental attributes of children and the instructional methods that could be matched most effectively to these attributes in order to produce successful learning. Such information will provide the base upon which diversified educational programs can be established.

Let us be clear, however, about one possible consequence of this proposed emphasis upon educational diversity: if successful, such diversity of instruction and educational goals may conflict with our long-standing principle of educational equality. If successful, educational diversity may—indeed, it should—develop and enlarge the existing diversities among children.

Let us take a specific, if partially hypothetical, case. Our evidence indicates that young Chinese children have their strongest skill in space conceptualization and their weakest in verbal ability. Conversely, young Jewish children are strongest in verbal ability and weakest in space conceptualization. Following our principal of matching instruction to the individual abilities of each child, we incidentally may enhance the initial strengths with which each group possesses. For example, through the incidental enhancement of the space conceptualization skills of the Chinese children, we may produce proportionally more Chinese than Jewish architects and engineers. Conversely, through incidental enhancement of verbal skills of the Jewish children, we may produce proportionately more Jewish than Chinese authors and lawyers. We will not have put members of these two cultural groups on an "equal footing" for entering a particular occupation. But can we say that we have produced a socially-destructive outcome by starting with the knowledge of differences in ability patterns and adapting our instructional strategies to this knowledge to produce a maximum match for each child, even if this process results in inequities of certain educational and professional attainments? We should be willing to accept, then, one possible consequence of arranging instruction to capitalize maximally on each child's distinctive pattern of abilities, interests, and ambitions: that, in certain areas of intellectual accomplishment, rather than reducing or bringing toward equality the differences among various groups, we may actually magnify those differences.

Summary

The educational need of greatest urgency in the coming decade is to move beyond our present educational system's concept of an "equal" standard, uniform education for all and to move toward providing as many diverse educational opportunities and programs as are needed to match the diversity of children in our pluralistic society.

Although equalization and diversification have been discussed in this paper as contrasting concepts, I do not believe that equalization and diversification necessarily are incompatible goals. If accelerating the feasible gains in jobs, education, and housing of lower-class families accelerates the gains in intellectual development of their children and reduces the difference in intellectual performance between social-class groups, we can all agree on the desirability of this outcome. On the other hand, if recognizing the particular patterns of intellectual strengths and weaknesses of various cultural groups and maximizing the potential power of these patterns by matching instructional conditions to them makes the intellectual accomplishments of different cultural groups more diverse, we can all accept this gain in pluralism within our society. Thus, if lower-class children now perform intellectually more poorly than middle-class children—and it is clear that they do—and lower-class status can be diluted or removed by a society truly dedicated to doing so, this gain in equalization seems to be one legitimate aim of education. If the maximum educational promotion of particular patterns of ability accentuates the diverse contributions of different cultural groups, this gain in pluralism seems another legitimate aim of education.

In the coming decade, we must learn how to change what is bad and changeable in education and society, resulting perhaps in greater equalization. However, it even is more important for us to begin to create an educational diversity that will permit us to learn how to use maximally what is good in education and society, resulting perhaps in still increased diversity. Logic—and the empirical evidence—endorses both conclusions.

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YOUTH AND EDUCATION IN THE SEVENTIES

Daniel U. Levine, Director, Center for the Study of Metropolitan Problems in Education, University of Missouri—Kansas City, Kansas City, Mo.

If Federal, State, and local government units concerned with education had looked five or ten years ahead in the middle 1950's, currently overwhelming problems of educating economically and socially disadvantaged youth in the big cities might today seem less insoluble. That "social dynamite" in the form of poorly educated, alienated youngsters would ignite an unprecedented challenge for the United States already was perfectly clear by 1958 or 1959, when James B. Conant set to work collecting material to document this incendiary problem. Had the Elementary and Secondary Education Act of 1965 been passed at that time, Federal aid likely would have been used much more wisely and to much greater effect than has proved to be the case in quickly patched-together compensatory education programs.

Unfortunately, it is not always so easy to look ahead and identify the major problems with which the nation will be struggling a decade hence. Book-length space would allow an observer the luxury of spelling out a large variety of possibilities which probably will require serious attention five or ten years in the future, but the space available in a short paper allows for discussion of only one or two major problems which almost certainly will require a massive national effort to solve.

The single most crucial educational problem in the 1970's will be essentially the same as arose to prominent national attention in the 1960's: that of providing more effective education for disadvantaged students in the big cities. Because this challenge is constantly discussed in the popular press as well as the professional literature in education and undoubtedly will be of principal concern to the authors of other papers in this series, I want to make only a few comments on it before turning to another topic.

Big City and Inner City Education

As a start, it should not be too much to expect that the Federal Government will correct serious errors of omission and commission in policies that bear on the quality of education in the big cities. For example:

—*training administrators*—Until Office of Education guidelines were changed in 1969, emphasis under the Education Professions Development Act (EPDA) was beginning to be placed on training administrators for big city schools. In view of the empirical as well as common-sense evidence which indicates that better prepared and unusually outstanding administrators are a key to improvement of education in inner city schools,[1] this emphasis should be not only restored but greatly strengthened.

—*title III*—The decision to turn most of the authority for establishing Supplementary Educational Centers under Title III of PL 89-10 (funds authorized, but not yet appropriated) over to state governments should be rescinded at least to the extent of maintaining a substantial Federal role in decision processes and an unquestioned veto over the results. The network of Supplementary Centers, if funded, potentially can be a major force in aiding big city schools, but this is unlikely to happen in many States in which traditional political trade-offs negotiated through State departments of education or State legislatures will dictate the form and operation of the Centers.

—*equal opportunities program*—Bills which have been introduced to triple or quadruple appropriations for the Equal Educational Opportunities program of the U.S. Office of Education should be passed without delay, thus reversing the presently scandalous imbalance in national priorities, wherein annual funding for this important program is equivalent to the funds consumed in several hours by national defense. A significant portion of these funds, along with appropriations under Title I and Title III of PL 89–10, should be used as incentive educational payments for suburban communities which encourage low-cost housing and join in efforts to provide better educational opportunities for big city students.

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[1] *Russell C. Doll, Variations Among Inner City Elementary Schools* (Kansas City, Missouri: Center for the Study of Metropolitan Problems in Education, 1969).

—*training inner city teachers*—EPDA appropriations should be increased and re-channelled to pay for 1) half the cost of preservice preparation programs for inner city teachers being trained at urban universities, and 2) the full cost of preparation programs conducted by school districts and/or independent agencies such as regional educational laboratories that are willing to initiate innovative programs which universities refuse to undertake on their own. If new training institutions along these lines invade the traditional domain of higher education institutions by reducing demand for the latter's graduates, so much the better; indefensible amounts of State funds currently are being wasted by urban universities whose graduates prove almost totally unprepared for teaching in the inner city where a significant proportion are now sent to work.

Other priority federal actions in response to the crisis in big city education should include:

—*experimental schools*—U.S. Office of Education proposals to establish and support experimental schools organized so as to insure effective implementation of innovative instructional approaches as well as competent evaluation and dissemination of results should be fully funded.

—*citizen involvement*—Continued stress should be placed on increasing parental and community participation both in decision-making processes and program implementation in schools serving low-income neighborhoods.

We are just beginning to understand more clearly how parental and community interest and support can make a significant difference in determining whether or not a good school program has an impact on the performance and attitudes of students,[2] but enough already is known to justify the Office of Education's growing insistence on parent and citizen involvement. The implications of this conclusion are far-reaching. Except in unusual cases, for example, it suggests that the government should stand firmly behind neighborhood model cities planning groups following the crunch that will occur in cities where established institutions such as school district central offices or city councils are unwilling to broaden traditional decision processes.

—*reorganization*—The U.S. Office of Education should begin to provide substantial incentive payments to metropolitan areas in which action is taken to organize public education on a more rational and efficient basis. Without such rationalization, many major school districts already are in a hopeless position in trying to provide adequate educational opportunities for their students (e.g., Newark, Buffalo, St. Louis), and many more will be placed in this situation in the seventies. Good models for rational organization of the education in the metropolitan area already exist in the plan that was nearly accepted by voters in the Louisville area[3] and in the existing educational system of the Toronto area.[4] In order to increase political support for intelligent reorganization, incentive payments to reorganize metropolitan education should go to the States in which SMSA's are located rather than just to the SMSA's themselves.

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[2] Edward L. McDill, Leo C. Rigsby, and Edmund D. Meyers, Jr., "Educational Climates of High Schools: Their Effects and Sources," *The American Journal of Sociology*, 74, no. 6, 567–586.

—*metropolitan destratification*—A meaningful start could be made toward implementing the recent recommendations of national commissions and associations which have called for building socially—and economically—diverse New Towns on a previously unparalleled scale in the United States.[5] Over the next decade or two, the New Towns strategy may prove to be the only viable alternative for alleviating the plight of Americans—along with their schools and other social institutions—now trapped in the debilitating central-city social environments which have been created as a by-product of the stratification of metropolitan areas.[6]

Problems of Youth

No one needs to be reminded that manifestations of student unrest—or alienation, nonconformity, generation gap, call it what you will—have emerged as an inescapable package of problems involving the nation's youth in the second half of the 1960's. One question of central importance for education and government policy is whether these problems are likely to grow, diminish, or remain about the same in the next decade. The answer obviously has enormous significance for education and other youth-service social systems.

Some social problems tend to be self-terminating in the sense that their importance diminishes in the "natural" unfolding of events over a relatively short period of time. Thus the great concern many educators and other Americans expressed over the alleged "apathy" of college students in the 1950's now seems somewhat quaint. Less facetiously, problems of gang warfare in New York and some other cities frequently have been reduced with relatively little outside intervention—albeit at the cost of a corresponding increase in the use of hard narcotics.

Are rebellion, dissatisfaction, and alienation among the young cyclical phenomena that are reaching or have reached their apogee and will tend to recede to "normal" levels in the coming decade? It is true that some facets of the problem can be considered "self-correcting" manifestations which the passage of time will tend to remove. Widespread usage of marijuana, for example, may come to be viewed with relative equanimity as new generations reach maturity and eventually account for the largest share of public opinion. Active United States prosecution of the war in Vietnam certainly will end by 1972, if not before, thus eliminating one of the most potent direct and indirect causes of youthful unrest. Currents fads now in vogue among youth will be replaced by new ones which may not be as upsetting to adults as long hair, sideburns, and beards seem to be. There is good reason to believe, however, that unrest and alienation have deeper sources rooted in long-term historical changes which can be expected to continue well into the next decade and beyond; hence it would be a mistake to assume that these problems will be significantly moderated without a major national effort based on understanding their roots and a commitment to deal with causes rather than symptoms. As the largest most important organized institution specifically responsible for the socialization of youth and as an institution which cannot hope to achieve even minimal goals in transmitting knowledge if students are alienated from its goals and curriculum, the school must play an active and central role in such an effort.

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[3] Robert J. Havighurst (ed.), *Metropolitanism: Its Challenge to Education.* Part I. 67th Yearbook of the National Society for the Study of Education: (Chicago: University of Chicago Press, 1968).

[4] Robert Bendiner, *The Politics of Schools* (New York: Harper & Row, 1969).

[5] E.g., AIP Task Force on New Communities, *New Communities: Challenge for Today* (New York: American Institute of Planners, 1968).

[6] Philip M. Hauser, "The Chaotic Society: Product of The Social Morphological Revolution," *American Sociological Review,* v. 34, no. 1 (February 1969), 1–19.

Before considering educational implications, however, it is necessary to identify some of the major causes of youth attitudes and behaviors which are proving so disturbing to older generations. To determine and guide a coherent educational response, more must be said about the reasons why so many young people are experiencing great difficulty growing up and finding a personally- and socially-rewarding place in the social structure—and therefore are bitterly rejecting or opposing established institutions and ways of doing things. For convenience these sources of youthful protest will be called problems of "growth-adjustment" in the remainder of this paper. Skipping over such patently obvious and centrally-important sources as need no further explanation,[7] some of the forces responsible for growth-adjustment difficulties among contemporary youth include:

1. *Identity confusion*

Modern society offers young people unprecedented opportunities for experimenting with and assuming a seemingly limitless variety of different identities. Children today no longer need grow up taking it for granted that their occupational roles will be similar to their parents'. Instantaneous and far-ranging communications made available through mass media inform young people about a large number of possible life styles running the gamut from "straight" astronauts to "cool" rock musicians. Varying life styles are made sufficiently real through the media so that new and different modes of behaving and believing less frequently seem outrageously at odds with identities learned in the home and the small, homogeneous community. "Everything is possible" is the message communicated directly (i.e., non-intellectually) through the communications barrage of modern media, and many young people respond by taking bits and pieces of identity from many sources and putting them together in individualistic mixtures uniquely their own.

In many respects this increase in the options available to young people is desirable and beneficial; it frees individuals to become what each can best be. At present, however, adult society provides young people with almost no help in trying and assessing possible identities. Part of the problem, as Klapp has stated most succinctly, is that "When anybody can be anybody, nobody can be somebody." [8] Given the difficulty at any time in history but particularly in our own complex world of finding roles and a philosophy which provide relatively permanent personal and social satisfactions, it is not surprising that many youngsters are failing to make a successful transition through identity-exploration stages of adolescence and young adulthood.

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[7] E.g., teaching ideals of equality and justice to young people in school while limiting access to housing, employment, and other social opportunities according to skin color; public policy statements about defending a "free world" defined so as to include authoritarian dictatorships in many parts of the world.

Curriculum implications. It will take years to develop and test curricula specifically designed to help young people achieve stable and satisfying identities in a rapidly changing, urban environment. About all that is known for sure now is that traditional sources of identity in the family, church, and local neighborhood groups no longer can be depended on to provide an adequate sense of identity through the simple process of observing, imitating, and listening to the exhortations of adults. Even during the time ego-strengthening and identity-testing curricula are being developed for use in the classroom, however, there is much the school can do by providing a setting in which students seriously consider such fundamental questions as "Who am I?" and "What kind of person am I going to be?". The degree to which the schools currently ignore these questions is a measure of our failure to understand that attempting to communicate subject matter to students who are unsure of who or what they are inevitably is a self-defeating waste of time.

Although the schools do not presently have much of a curriculum to help students overcome identity problems, this does not mean that there is nothing the schools can do until we work out a comprehensive curriculum for this purpose. Projects like the Outward Bound Program in Colorado and several other states or the school-related camping program in San Diego are achieving a great deal of success in helping young men and women learn how to function as individuals in a complex society. In cooperation with the schools, such opportunities can change the lives of many youth who now are mired in self-doubt and confusion.

2. Privatism

"Privatism" refers not to a search for privacy, which is a desirable condition in a hectic, urban setting, but to the restricting of contacts and interests as far as possible to immediate family and other primary groups of nearby persons. Since most individuals draw much comfort and sustenance from small, primary groups, a degree of privatistically-oriented behavior is an important and possibly indispensable part of social living. Like anything else, however, privatism easily can be carried to an extreme that is severely damaging to individuals as well as society as a whole.

Pressures toward privatism pervade the lives of many of the social groups which constitute metropolitan society, from the inner city to the most affluent suburbs. Among the inhabitants of central city slums, for example, the problems posed by an unusually dangerous and uncertain environment and the day-to-day difficulties of "making it" in this environment push in the direction of a very cautious stance toward strangers, particularly those who are different in any obvious way from oneself.[9] But it is the situation among families in the vast suburban areas which have grown so rapidly since the second world war which is much more interesting, for it is the privatism prevalent among large numbers of suburban families that helps to account for the rebellion and unrest evident among upper-middle-class youth in the suburbs.

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[8] Orrin E. Klapp, *Collective Search for Identity* (New York: Holt, Rinehart and Winston, 1969), p. 112.

The reasons why many parents turn inward upon a small house and plot of land in the suburbs are easy to identify and sympathize with. The motivation behind moving to the suburbs, after all, more often than not is precisely to find a better life than seems possible in the densely-populated central city. To escape from pollution, congestion, crime, and high taxes, and, above all, to provide what are perceived as better educational opportunities and a safer and more wholesome environment for children to grow up in have been the generating forces behind the suburban migration of the twentieth century. It is understandable that the father who works in a noisy, highly-pressurized city and the mother who has personally or vicariously experienced difficulties protecting her children from unwholesome influences in the city should see their plot of ground in the suburbs as a refuge and should seek to isolate their children from the dangers and uncertainties of the outside world. This effort to keep children immersed in relatively homogeneous and controlled surroundings in their immediate neighborhood is, in fact, not just understandable but in many ways eminently laudable as well.

One serious objection to privatism in the suburbs, however, is that it turns out not to work very well for a growing number of young people. True enough, few difficulties arise until youngsters reach adolescence, when a child must begin serious testing of the roles and identities he eventually will assume as an adult. To do this he must feel part of the larger "real world" which has been presented to him by the mass media and which he soon will enter and will have to survive in mostly on his own—regardless of how much material support may be available from his well-meaning parents. But desires to be tuned into and get on with the business of participating in the heterogeneous and fast-moving world of adult society do not jibe well with parents' efforts to prolong childhood by protecting their children from the "wrong" kinds of experience and people as long as possible. Even among those youngsters who can learn to handle adult roles and responsibilities while living in a privatistically-oriented social situation, many will denounce and reject adult values and expectations which are bitterly resented as being provincial and restrictive.

Curriculum implications. Although the school alone cannot overcome the negative effects of extreme efforts to insulate young people from the pluralistic society in which they are growing up and will live as adults, there is much it can do to help students acquire skills and understandings which will help them learn to participate in this society. The school's primary role in this regard is to give students experience in working with other people and groups and to develop mutual understanding of group values and behavior. Part of this can be done through subject-matter studies in the curriculum, but to a large degree the development of skills and understandings for living in a pluralistic society depends on direct personal contact from an early age with people and values other than those of one's immediate family or neighborhood.

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[9] Gerald D. Suttles, *The Social Order of the Slum* (Chicago: University of Chicago Press, 1968).

3. Prolonged adolescence and techno-demographic change

Closely related to the privatism which parents may seek to impose on youth in early adolescence is the fact of prolonged adolescence which many social scientists believe is the principal root cause of current unrest among youth.[10] Simply defined, prolonged adolescence refers to the lengthening period of time over which young people are expected to acquire an education before becoming fully-responsible adults.[11] As a natural byproduct of the trend toward formal education through college, larger and larger numbers of young people are brought together on college campuses or in other special settings where youth are deeply immersed in a culture somewhat distinctive from the culture of the nation as a whole. In addition, the growing size of the subcultures that form within the larger youth culture allows a youngster to live almost entirely within a subculture—a condition which as easily results in loss of contact with reality among radical youth as among middle-aged conservatives in a small town.

Regardless of whether an observer believes that the "youth culture" which emerges when large numbers of young people are brought together in this way is "good" or "bad," the importance of this phenomenon for reinforcing youthful desires and ideals (e.g., equality, personal participation in decisions which affect one's life, the right to be different) is difficult to overestimate.

A number of perceptive scholars concerned with youth and society, most notably Frank Musgrove, have looked a step beyond prolonged adolescence to analyze its economic and demographic causes.[12] What analyses of this type basically concentrate on are the technological and economic forces which require young people to play relatively subservient roles in society long past the time adulthood was reached in previous eras and, still more fundamental, changes in the age pyramid brought about by improvements in medicine, sanitation, and other factors. Consequent lengthening of the life span, Musgrove has pointed out, means that positions of authority in the economy are filled for a much longer period of time by experienced occupants, and hence that younger persons have to wait many more years to reach positions of prestige and influence. If, at the same time, there is a rapid increase in the number of young people below the age of 15 or 20 (as is likely to occur beginning about 1975), severe competition for a place in the sun will be added to the frustrations of prolonged dependence to create still more explosive dissatisfaction among youth.

Curriculum implications. Since problems of growth-adjustment are so closely linked to prolonged adolescence and the related isolation of youth from adult society, schools should not reinforce these problems by treating young people as children long after the time it is necessary to do so. One obvious implication is that youth should be actively involved in policy-making as well as decision-making in the school and the community at large by the time they complete the junior high school: this clearly necessitates, in turn, student involvement much more widespread and comprehensive than is found in customary student council-type activities.

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[10] Bennet Berger, "The New State of American Man—Almost Endless Adolescence," *The New York Times Magazine*, November 2, 1969, 32–33, 121–136.

[11] In a more precise statement Keniston has argued that—

> . . . a previously unlabeled stage of development is opening up. This stage is defined sociologically by post-adolescent disengagement from the adult society, developmentally by continuing opportunities for psychological growth, and psychologically by a concern with the relationship of self and society. It is this stage of life which I term the stage of youth.

Kenneth Keniston, "Moral Development, Youth Activism and Modern Society," *Youth and Society*, v. 1, no. 1, p. 111.

[12] Frank Musgrove, "The Problem of Youth and the Structure of Society in England," *Youth and Society*, 1, no. 1, 38–58.

Other obvious responses which the school could make in appropriate circumstances to problems associated with prolonged adolescence include an expansion of study and work-study opportunities outside the school and introduction of the extended school year or other mechanisms which might reduce the time span between kindergarten and graduate school by at least two full years.

4. Evolution in moral and cultural values

Changes which are occurring in moral and cultural value also are inseparably related to the evolution of technological society. When schools, the mass media, and other institutions expose youngsters to a variety of moral philosophies and points of view, a "post-conventional" morality emerges in which ethical principles replace unquestioned acquiescence to traditional authority.[13] As Harvard psychologist Erik H. Erikson has pointed out in a number of writings concerned with the development of identity and belief in children and adolescents, a morality based on ethical principles is a societal imperative in the new world of technology and complicated human relationships.[14]

Considering cultural values in general, accelerating technological change has created a situation in which customs and beliefs of the immediate past begin to seem artificial and inauthentic to new generations of youth. In one sense, this occurs because the environment has changed so rapidly that images and norms which served utilitarian purposes in previous eras no longer fit the changed environment.[15] In another sense, what appears to be happening is that attitudes and norms have accumulated over several centuries into an attitude-norm system so complicated and difficult to learn that young people begin to perceive it as artificial and overcultured.[16] This is especially likely to happen in the schools, which are expected to provide a greater quantity of education to a larger proportion of young people than ever before; in this situation motivational practices which were adequate a generation ago no longer have the capacity to generate acceptance of increasingly rigorous but "unreal" demands of the schools and other social institutions. Both perspectives can help us understand why educational institutions established precisely in order to routinely transmit the cultural heritage of the past few centuries are being rejected by young people who view them as being irrelevant and archaic.

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[13] Lawrence Kohlberg, "Moral Education in the Schools: A Developmental View," *The School Review*, v. 74, no. 1 (Spring 1966), 1–30.

[14] Shonfield has summarized this imperative very well in stating that, "The organization of the highly urbanized society of the future, with vast populations of affluent persons jostling against one another in crowded spaces, will surely require close regulation. It will also need the ready assent of citizens to the behests of public authority, for the sake of efficiency of movement and convenience of living. If people want these things, then it would seem they will have to acquire the habit of exercising very great personal restraint in their relations with one another." Andrew Shonfield, "Thinking About the Future," *Encounter*, February 1969.

[15] For example, many historians believe that the close of the frontier in the U.S. led to a decline in the type of individualism which was appropriate to a frontier culture. The introduction of labor-saving devices has freed many women to participate more fully in the economy and thereby reinforced the concept of equality between the sexes. Social and national purposes were better served by the belief that birth control is sinful in a world in which infant mortality was high than in the overpopulated and highly competitive society of today; along with the norm itself, many of its intellectual and emotional underpinnings now are being swept away in a social and physical environment in which it no longer seems so relevant.

[16] Emile Capoya, "The Red Flag and the Black," *New American Review*, 6 (New York: New American Library, 1969).

Another widely-recognized source of youthful unrest associated with changing moral viewpoints in a technological society is the relative affluence made possible by a highly productive economy. The emergence of a relatively large and prosperous middle class has meant that many more youngsters grow up free of constant pressures to accumulate resources for the future and consequently are less preoccupied with internalizing traditional values and roles associated with personal advancement and material success. If older Americans who grew up in conditions of extreme scarcity have a difficult time understanding why many of their children seem more concerned with personal self-fulfillment than with security and material gain, younger persons have just as difficult a time understanding why large groups of citizens are not provided with a greater share of the output of a highly productive economy.

Curriculum implications. The schools cannot long ignore the consequences on moral and cultural values of mass communications, changes in the nation's technological environment, and relative affluence among large groups in the population, any more than they can repeal these underlying causes of growth-adjustment problems among youth. Maintaining a curriculum that may have been fairly well suited to the 1930's and 1940's today leads many young people to reject not just outdated parts of the curriculum but the school itself. To reverse or at least halt these trends, the curriculum must deal directly with the concerns and values students bring to the school.

There is no inherent reason why schools cannot play a much larger and more effective part in moral development without violating constitutional guarantees of separation between church and State. Fragments of a curriculum which might help young people develop moral philosophies suitable for a complex, modern society are being worked out in a number of the "new" social studies projects focusing on economics, political science, and anthropology, as well as in nondenominational curricula prepared by several religious groups. But the work of training teachers, testing curriculum in the classroom, and widely implementing it at appropriate grade levels in the schools has scarcely begun.

The challenge to make the curriculum—and therefore the school itself—much more "real" and authentic to students growing up in post-industrial society is, if anything, even more pressing and immediate than any of the other problems discussed in this paper. Fortunately, there are a number of approaches that can be widely used to provide a bridge between the school and the world outside. Among the more obvious and promising of these approaches for motivating students and hence for achieving both the social *and* the academic goals of education are: a) *simulation techniques* for learning academic subject matter in the classroom; [17] b) *utilizing the neighborhood and commu-*

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[17] **Sarane S. Boocock and E. O. Child, *Simulation Games in Learning* (Beverly Hills, Calif.: Sage, 1968).**

nity outside the school as a resource for learning; and c) *serious discussion and analysis of the concerns* students actually feel in the school and classroom.[18] But truly systematic efforts along these lines still are infrequent and unusual.

Conclusions and Major Implications for Education and Federal Policy

Although it would be easy to go on at great length enumerating causes of growth-adjustment problems among modern youth, enough has been said to indicate that these problems are rooted in long-term historic changes and hence are likely to spread more widely rather than wither away in the next decade. That they are manifested today most clearly among upper-middle class youngsters only means that young people growing up in middle-class environments generally are the first to be affected by such emerging characteristics of post-industrial society as affluence, prolonged adolescence, and new kinds of identity crises. As generally has happened in the past and in some respects is becoming evident today, young people of other social classes are likely to emulate many of the attitudes, reactions and tastes of established middle-class youth as these emerging societal trends make their impact felt on a growing proportion of the population.

Despite the growing severity of growth-adjustment problems among youth and their inevitable manifestation in the form of serious difficulties in the schools, our present educational system—which grew to maturity in circumstances radically different from those we face today—offers virtually no meaningful (i.e. planned and systematic) program for helping young people cope with these problems. This also means, in turn, that we find ourselves in the rather bizarre position of operating a $35 billion a year public school system for socializing and educating the young that all but leaves them to fend for themselves as regards many of the most difficult problems of growing up and finding a rewarding place in the social structure.[19]

Suggestions for curriculum change have been cited in the preceding sections dealing with growth-adjustment problems among youth. There is no space to consider all the major implications for educational policy which might be discussed in this concluding section, but two fundamental conclusions stand out which should be specified as clearly and directly as possible.

1. *Existing organizational and operational practices in the schools cannot accommodate the kinds of instructional programs and experiences which might help young people deal with the problems they will confront growing up in the seventies.* Schools today simply are not staffed or organized to provide youngsters with much help in such emerging existential tasks as establishing an identity, developing a moral philosophy, or relating to other people and groups with a background different from one's own. It is not that educators have been unconcerned with nonacademic (more properly, "preacademic") goals: for at least half a century educational philosophy has been saturated with concern for the "whole child." Instead, the major problem is that

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[18] William Glasser, *Schools Without Failure* (New York: Harper & Row, 1969).

[19] In discussions with many educators, I have never heard assertions contradicting this generalization. Many teachers are beginning to understand that failure to recognize or deal with growth-adjustment problems among students greatly dilutes the school's capacity for transmitting academic subject matter through traditional approaches to curriculum and instruction. Stated more simply, teachers are becoming more cognizant of the truism that motivation precedes learning, and exhortation produces neither.

schools are organized and operated in a manner that in practice puts primary emphasis on mastery of academic content to the exclusion of other goals.[20] Few teachers are specifically trained or employed to conduct instruction focusing on such preacademic goals as identity formation and development of moral character; little, if any, resources are devoted to this purpose; no part of the school day is explicitly set aside for educating pupils to live well in a modern society; only fragments of appropriate instructional materials and curriculum guides are available to the average classroom teacher; and formal evaluation of the teacher's efforts in this direction almost never is undertaken.

One of the most plausible models for organizing and operating schools suitable for the seventies has been described by Fantini and Weinstein in a booklet titled *Making Urban Schools Work.*[21] Basically, Fantini and Weinstein propose that a distinction be made between the academic, personal, and social skills needed by the young and that a definite part of the school day or school week should be assigned to each of these three functions. Instructional personnel would specialize in one of the three areas, and instructional technology (e.g. computers, visual media) would be used to a much greater extent and more effectively than is possible in the school as it is presently organized.

Other concepts for reorganizing instruction in the school have been developed by Klausmeier and his associates at the Wisconsin R & D Center, who propose that instruction be provided by Research and Instruction Units consisting of personnel with the training and resources to accomplish a greater variety of purposes more effectively and efficiently than is possible in existing self-contained or nearly self-contained classrooms. What both of these and other promising models for reorganizing the school have in common is emphasis on a few basic concepts for improving education, particularly differentiated staffing, more intensive and appropriate use of technology, adequate attention to evaluation, and new ways of allocating time to a variety of educational goals.

2. *Changes this fundamental in the way schools are organized and operated cannot be accomplished without an enormous effort in teacher training and retraining, curriculum development and dissemination, and experimentation in individual schools and school districts. None of these changes is likely to occur in the absence of substantial Federal programs to initiate and implement them in the schools.* The U.S. Office of Education has traveled a long way in the sixties in taking steps to institutionalize change in the schools (e.g. establishment of research, development and dissemination agencies; the ES-70 Project; development of an elementary teacher training model; building of inter-institutional linkages), but its programs and resources for teacher training, research and evaluation, and initiation of change processes in the educational system will have to be enlarged greatly and strengthened or the public schools may prove to be a fatal Achilles heel as we struggle to maintain some semblance of a unified, peaceful nation in the decade ahead.

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[20] Mary Alice White, "The View from the Pupil's Desk," *The Urban Review* (April 1968), 5–7.

[21] Mario Fantini and Gerald Weinstein, *Making Urban Schools Work: Social Realities and the Urban School* (New York : Holt, Rinehart and Winston, 1968).

LEARNING TO FEEL—HUMANISTIC EDUCATION AND TOMORROW'S SCHOOLS

Harold C. Lyon, Jr., Horace Mann, lecturer, School of Education, University of Massachusetts, Amherst, Mass.

THE PROBLEM—NEGLECT OF THE AFFECTIVE

Our educational systems are dominated by one-dimensional teachers and faculty who are concerned almost entirely with the development of the cognitive or intellectual capacity of their students. We have conditioned teachers to deny feelings and, hence, have cut them and their students off from the rich vistas of learning which feeling can open. Isolating intellectual or cognitive learning from feeling or effective learning is a mistake, the impact of which we are feeling on campuses and in classrooms all over the country. It is a mistake which has educated a large number of intellectual "half-men", brilliantly developed, perhaps, on the intellectual end of the continuum, but severely lacking on the affective end.

The nurturing of the emotional side of the student—love, empathy, awareness, and fantasy—either has been neglected or left to the individual, his family, or chance. All too often chance prevails, and the result becomes a half-man, who, like his teachers, has been educated to function effectively on only the intellectual plane, and whose feelings remain unknown to him, misunderstood by others, and which seem to exist beyond his conscious control.

Most of the things that students enjoy about school are the things highly charged with feelings and emotions and which have little to do with the present curriculum; in fact, they are usually classroom taboos. I refer to what we have labeled as extracurricular activities: boy-girl relationships, protests, social causes, dances, rock music, cars, and really getting to know someone. It is high time for us to admit that students and teachers have emotions—many of which are confused and many more of which are ignored or suppressed. I submit that if we do not act to legitimize the emotional growth of children, we and they will continue to pay a heavy price in drug-taking, promiscuity, disruption, and random violence. Feelings which are ignored often become explosive. Fortunately, we are beginning to discover that people *can* be educated to express, understand, and control their emotions just as they have learned to order their mental processes. But if we are not willing to make this effort with our children, we run the risk of having to confront, later on, people whose emotions were developed haphazardly and uncritically—and it is still true that a little knowledge is a dangerous thing. I am advocating that we begin to look on people as whole human beings who have feelings—feelings which directly influence their intellectual growth. Schools must recognize that pleasure, spontaneity, and feelings are as vital as, if not more vital than intellectual achievement in the total development of children.

"Humanistic education," as it is being called today by a few pioneers in the field, is a movement which offers some hope for replacing our old idea of teaching with the joy of discovery. Anyone who has watched, as I have, a class of fifth graders transform their own classroom from utter chaos to the industrious buzz of children discovering things, after the children were permitted to evolve their own rules for behavior, has discovered the lesson of "allowing" rather than "making." For instance, a child who feels a need to ask for his own word—a particular gut feeling word of anger, joy, or fear that is gripping him that day, and has it written for him in his own word book—discovers the word instantaneously and most likely never forgets it. To him writing and reading become a natural extension of feeling and speaking as he discovers what he is actually trying to feel. How much more effective it is to facilitate a child's own discovery of words through integration of his own feelings than it is to force inane "Dick and Janeisms" on him day after day! A student who has discovered something significant needs no instructor-assigned grade as a measure of his accomplishment. He deeply feels the accomplishment immediately, and that is the best reward possible.

The word "teach" is defined in the dictionary as ". . . to make to know." Yet it is very difficult to make someone know something. Dr. Carl Rogers, the famous psychologist, in his excellent new book, *Freedom to Learn*, puts it this way:

> I see the *facilitation of learning* as the *aim* of education, the way we learn to live as individuals in process . . . We know . . . that the initiation of such learning rests not upon the teaching skills of the leader, not upon his scholarly knowledge of the field, not upon his curricular planning, not upon his use of audiovisual aids, not upon the programmed learning he utilizes, not upon his lectures and presentations, not upon an abundance of books, though each of these might at one time or another be utilized as an important resource. No, the facilitation of significant learning rests upon certain attitudinal qualities which exist in the personal *relationship* between the facilitator and the learner.[1]

It seems to me to make a lot of sense to substitute "learning facilitators" for "teachers." The attitudinal qualities which Carl Rogers cites as being significant in a learning facilitator area:

1) Realness in the facilitator
2) Prizing, acceptance, and trust
3) Empathetic understanding

> When a facilitator creates, even to a modest degree, a classroom climate characterized by all that he can achieve of realness, prizing, and empathy; when he trusts the constructive tendency of the individual and the group; then he discovers that he has inaugurated an educational revolution. Learning becomes life, and a very vital life at that.[2]

Altogether too many teachers and faculty members wear what I call "status authority" rather than "natural authority." The teacher wearing "status authority" stands behind the podium, with his degrees and titles, and lectures "down" at a collective body of students about what *he* thinks is relevant. The teacher wearing "natural authority" has earned it, not because of his degrees or titles, but rather by demonstrating to his students that he shares with them the classroom time for learning and the resources he has available—himself, his friends and associates, his knowledge, his experiences, his feelings, and the students themselves. Students see him as a partner with them in a learning experience, sharing a combination of resources which are relevant to their lives and goals. It seems quite appropriate to call such a person with "natural authority" a "learning facilitator" rather than a "teacher."

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[1] Carl Rogers, *Freedom to Learn*, Charles E. Merrill Publishing Company, Columbus, Ohio, 1969, p. 106.
[2] *Ibid.*, p. 115.

It is my opinion that the avoidance of dealing with feelings in the classroom is one of the major reasons why education is being attacked violently by students who doubt its relevance to their lives; by black people demanding attention to their needs for pride, identity, and dignity; and by hippies protesting the hypocrises of an unfeeling adult world.

In January 1969, I was invited to take part in a conference hosted by the President of Columbia University entitled "Columbia—After the Crisis." Among the participants were the trustees of Columbia, the key administrators and faculty, student leaders, and a group of outside voyeurs who had been invited for objectivity, I suppose. The conference was organized into eight or ten small "encounter groups" (an intensive small group experience) led by Dr. Carl Rogers and a team of trained group leaders who, though they had nothing to do with the organizing of the conference, were called in at the last minute in a desperate attempt to open communications. Each small group was composed of a mixture of trustees, faculty, administrators, students, and outsiders.

In the author's group, which was led by Carl Rogers, it became apparent that one of the faculty members—a distinguished physicist—was gradually moving his chair back from the group circle. Dr. Rogers remarked to the faculty member that he had the feeling that he was trying to withdraw from the group. The faculty member replied that indeed, he was. He had *not* come to the conference to be psychoanalyzed but rather to learn. "Learning," he stated, "takes place on an intellectual, rational level not on an emotional plane. Not a wise intellectual statement has been uttered here today," he declared. "If anyone else would care to engage in an intellectual discussion, I propose they leave this group and join me in the next room for some profitable learning."

After this statement, one of the outsiders, a president of a foundation, remarked that he now understood a little better what the problem at Columbia was all about. A student responded that this reluctance of the faculty to deal on any level except the intellectual was at the root of Columbia's difficulties—in fact, at the root of the difficulties all over our campuses today. It became increasingly obvious to the outsiders, including the author, that the essence of the Columbia student demands was for faculty members to deal with them humanly—with emotion and feelings—rather than purely on the intellectual level—a "safe" plane where most faculty members at the conference struggled to remain and where, of course, their competence was unquestioned.

In a large general session of the conference, when all participants were assembled in one room, the students decided to take the floor and present their side of the problem. In a great display of emotion and with tears flowing freely, the students, without any pretentious pomp and dignity, but with great vividness and articulateness, attempted to communicate their feelings to the trustees, administration and faculty. Throughout this session several top administrators and faculty denied that Columbia had a communication problem—a naive declaration, at best, for any university to claim. Yet, throughout this session the lack of communication among students, faculty, and administrators became flagrantly obvious to the outside observers.

An extremely articulate, long-haired student stood and remarked, "The crises at Columbia all boiled down to the dichotomy of 'intellect' versus 'feelings' or to put it another way 'duplicity' versus 'morality'." This statement went over the heads of most of the conferees, and as invariably occurred, a faculty member rose and began to lecture in an intellectual monotone. An outsider—a distinguished psychologist and philosopher—remarked to me that no one seemed to hear the important key point that the student had just made: that faculty members dealing on an emotionally "safe" intellectual level were practicing duplicity in failing to face up to their feelings. They were half-men—well developed, intellectually, but lacking the capacity to express their feelings directly. Students, on the other hand, were dealing openly and honestly with their feelings, and consequently were being moral and honest in spite of the faculty's pontifical views of their morality.

The denial of most faculty at Columbia to nurture and deal with feelings is, in the author's opinion, one of the underlying reasons for the crisis at Columbia and at other institutions today. In many ways, the conference at Arden House could be considered a failure. In one important way, however, it was successful in that it focused clearly on one of the principal problems facing Columbia and other institutions—the problem which results when human traits and capacities are divorced from each other, when rationality is segregated from emotions, and when wishes and desires are isolated from the means to satisfy them. As their name implies, "intellectuals" are sometimes partial human beings. The rest of what they could be is too often locked uselessly inside them.

Students in schools all over the country are saying: "We are human beings just like you. We have feelings just as you do. In fact, many of your actions indicate that you do not feel as much as we do. We need you and your experience; however, treat us as individual human beings, rather than collectively as another class."

Today's youth are extraordinarily energetic, strongly and positively motivated, well-educated in certain categories of knowledge, and passionately committed to improving the world in which we live. Though the violent efforts of the more irresponsible students have clouded over the constructive efforts of others, many constructive things have been accomplished by students. Students have been in the vanguard of the civil rights movement, the Peace Corps, the Teacher Corps, VISTA, the cry for reform on our campuses, and, in fact, the demand for relevance and sincerity in the nation.

The views expressed in this article are not to suggest, however, that youth are infallible. It is nonsensical and perhaps destructive to accept the inappropriateness of some youth simply because it comes from youth. Parents, teachers and faculty have enormous responsibility for the actions of our youth, especially when we believe in their causes. It becomes our obligation not simply to approve uncritically, but to attempt to share whatever resources we have to make our young leaders and their followers better able to deal effectively and responsibly with and change the world around them. This is difficult to do from the unfeeling pedestal of the "intellectual half-man."

HUMANIZING EDUCATION

So much for the problems inherent in educational systems which neglect the development of the affective or feeling side of students. What can we do about this situation?

A new movement which is just beginning in this country, labeled "humanistic education," offers a vision of hope in a time when hope does not come easily. Though humanistic education offers no panacea for the problems we face, it is, in my judgment, a direction in which we must move if we are to bridge the generation gap and begin educating whole men who can deal with their feelings as well as their intellects. Humanistic education has been defined as an integration of cognitive and affective learning.

Humanistic education is something of an umbrella. It has clustered beneath it a diverse and amazing collection of people: unconventional innovators from the Esalen Institute poking fearlessly into the nooks and crannies of human potential; pragmatic industrialists seeking to maximize the productive output of the brains they employ; utopian thinkers busily creating strategies to keep society viable throughout the twentieth century and into the next; "Third Force" psychologists and psychiatrists setting forth their image of man as a self-actualizer, uncovering his specieshood and selfhood; and educators desperately attempting to combat the wholesale failure of the urban public school systems. The movement is rather undisciplined and inchoate, an unorganized aggregate of highly individualistic innovators. The thin glue that holds them together is the notion that the integration of affective and cognitive processes in the learning experience is a highly desirable, realizable, but seldom achieved or practiced state of affairs. While there are few large-scale programs in humanistic education, those models that do exist have not been very well supported or promoted on a national level. One kind of support which would greatly facilitate the pioneering work done in this field is the development of a national dissemination system, which would encourage cross-fertilization while discouraging unnecessary duplication of efforts.

A NATIONAL EDUCATION DISSEMINATION SYSTEM

In fact, another pressing need which we face in this country is for an effective national education dissemination system that can get the word out effectively about new innovations and developments, such as humanistic education, to the 27,000 school districts around the country. There are several research-oriented systems such as ERIC (run by the U.S. Office of Education); however, this is information about research, read almost exclusively by researchers rather than teachers, administrators, parents, or school board members. Many noteworthy developments, and a few important breakthroughs in education, are taking place around the country; but few schools of education (which are, for the most part, rigid bastions against change that remain a decade or more behind the times) are exposed to these models. Those that are exposed either clam up in their shells of intellectual conservatism or hear about them through third- or fourth-hand hearsay. We need a dissemination system that will tie each of the 27,000 school districts around the country into a communications network. If several of the large Hollywood film companies, for instance, would be interested in making a serious investment in education, it seems that they would have the potential to make some real progress in this area.

For example, such a company, already having the large investments in facilities and equipment, could produce every other week on a subscription basis a top caliber 16-mm. film with appropriate printed supplementary material which could be mailed every other week to each of the subscribing school districts in the country. Federal funds could be legislated for each school district to have a grant for subscribing to this kind of service. Each superintendent or principal would set up two hours every other week for in-service training when all his teachers could gather to view the film and have a discussion. Each film would feature some new innovation being tried in a school or school of education. Supplementing the teachers in the films would be such narrators as Robert Vaughan, Bill Cosby, Gregory Peck, and other actors who have already demonstrated their desire to make a contribution to education (of course, these skilled actors would already be under contract to the large film companies). In this way the great film and dramatic skill and expertise of Hollywood could be married to the knowledge of educators in a most productive mating. The American Film Institute made a modest but important start in bringing Hollywood together with education in a summer institute at Santa Barbara in 1968 funded by the Education Professions Development Act of the U.S. Office of Education. However, in the dissemination area, much potential remains to be tapped by getting the word out to others who are isolated from important new developments such as the humanistic education movement.

THE PIONEERS IN HUMANISTIC EDUCATION

Behind the pioneers in the humanistic education movement is the theoretical work of such notables as Alexander Lowen, Abraham Maslow, Fritz Perls, Carl Rogers, and others. The research and theoretical design in "human potential" of these men have set the scene for some innovative and pragmatic work being carried out in classroom frontiers by a handful of courageous, if perhaps less known, educators such as Dwight Allen, Terry Borton, George Brown, William Schultz, Gerald Weinstein, and a group of educators working at Esalen Institute and the National Training Laboratory. There are many other unknown educators in classrooms around the country who are doing some significant pioneering in humanistic education. There is a pressing need to bring these people together to share their ideas. There is also a need to gather the data they have collected and to analyze it. There is a need to disseminate information to others on what they are doing. There is a need to give them some support and funding—Federal, State, and private—to pursue their work, and finally there is a need for evaluation and research on what they are accomplishing.

HUMANISTIC EDUCATION TECHNIQUES

What is being done to integrate feelings into the classroom? Although there are many different approaches, varying from role playing to the use of encounter groups, not nearly enough is being done. Some educators feel that they can teach the traditional academic disciplines better by integrating the affective component with the cognitive subject matter. For instance, an English teacher treating the *Red Badge of Courage* or *Lord of the Flies* divides her class into small groups of five students and then tells each group to get rid of one member. The members that are rejected may form their own group. The class then has a discussion of how it feels to be rejected by a group. From this they can understand more vividly how Stephen Crane's hero felt when he was rejected by the different regiments he attempted to join, or how Piggy felt in *Lord of the Flies* when he was rejected from the group. The teacher might also tie in a discussion of how minority group members, in general, feel when rejected from membership in the larger social group.

Another group in the humanistic education movement feels that there is a need for an entire new "curriculum of the self" which would expose children to their feelings and self-concepts. One of the leaders in this group is Gerald Weinstein, who feels that we need a separate affective curriculum (in much the same way as we have a physical education curriculum) that would deal with a student's concept of his own identity, power, and relationships. In such a program the individual, himself, and "the process" become the content in the classroom. The idea is that the teacher (who must have achieved, herself, a certain measure of self-awareness through previous training) creates situations or confrontations through various exercises which help the student to identify what his unique behavior responses are in certain situations; what he expects this behavior to accomplish; how others see this behavior; what alternative behavior, if any, he would like to experiment with; what effect this has on others; what changes he would like to make in his behavior; and, then, strategies for making those changes. Such a curriculum goes quite a bit beyond the initial self-awareness stage. It provides the student with tools for negotiating behavior change with himself and others.

A first grade teacher in California, Gloria Siemons, who has worked with George Brown at Esalen in a humanistic teacher training project funded by the Ford Foundation, is using humanistic techniques with children and parents doing such exercises as the "blind walk" where a child or parent is blindfolded and led by his partner on a sensory walk, experiencing as many different sensations as he trusts his partner to give.

A fifth grade teacher exposes her students to varied communication experiences by having them pair off and sit back to back, communicating with their partners by speaking only. They then sit face to face and communicate nonverbally using the eyes only. This is followed by a few minutes of communicating with eyes closed, only touching fingers. During this last phase of the exercise with fingers touching, they say "hello," take a walk, get into a fight, make up, and say "goodbye." The pairs then discuss the exercises and their reactions and feelings about the various modes of communication. Invariably, they learn very quickly that words often get in the way of our communication with others, and that often much more can be said about feelings using nonverbal means.

An urban educator, Gerald Weinstein, who is Director of the University of Massachusetts Center for Humanistic Education, has an eighth grade New York City class put on "one-way feeling glasses," through which they can see special things. He usually has a box full of old dime store glasses which, when described as "suspicious glasses," enable the wearer to see everything suspiciously. A volunteer wearing them, looks at Weinstein and asks suspiciously, "I wonder why you're here today and our regular teacher is out loafing or goofing off?" Weinstein replies, "That's exactly the way suspicious glasses work." The boy looks around the room and asks, "I wonder if those two boys in the back of the room are talking about me?" Another pair of glasses, "self-righteous glasses," provide some more interesting results. When asked who might wear "self-righteous glasses," a child replies, "Batman!" Another says, "the principal!" A boy in the back of the room says, "the counselor!" Whenever you are sent to see him he always asks, "What trouble have you been in again?" When asked what the opposite of "self-righteous glasses" might be, one student replies, "People-are-not-too-different-from-me glasses." When asked what kind of glasses a new kid coming into the school ought to have, several students reply, "Power glasses, to make it through the fights!" A new student in the class emphatically agrees, and this touches off a discussion on how he might be accepted by the others. When the students in the class all put on "strong point glasses," and look around at their fellow students, the classroom becomes alive with feeling as students begin honestly telling others, in most cases for the first time, about their strengths. A new warmth seems to spread among these ghetto hardened children as they hear reinforcing feedback from others in the class about their strong points. Some more new insight flows as they look into mirrors while wearing "strong point glasses" and describe what they see.

Principals from different school districts meet at a National Training Lab Workshop in Bethel, Maine for a weekend of "t-grouping" or sensitivity training, during which they take off their "masks" and get some straight feedback about how they relate to others as well as some support about how they might relate better.

Physical education and math teachers from California meet at at the Center for Studies of the Person at La Jolla, California, for a summer "encounter" workshop during which they act out their feelings with other teachers who play the role of problem students or difficult administrators.

Pairs of seventh graders react to music by painting in teams with both members holding the same brush, painting whatever the music inspires. This is followed by discussions between them of cooperation, leadership, passivity, and hostility.

A high school class, divided up into small groups, draws a composite portrait of its group members, using the strong points of each in the drawing.

A first-grade teacher uses dance and song to teach her children to feel the sounds they are learning to say.

A dean of a school of education, Dwight Allen, erases the slate of required courses, and gives students equal rights with faculty to spend a year planning a new relevant school of education (allowing academic credit for their work) which is based on the needs of the 1970's rather than the 1940's.

A history teacher creates role playing situations to make a history class come to life with the students acting out how members of the power structure felt during the French Revolution.

High school seniors role play a university-student crisis with different members playing the administration, and others playing the students and faculty. They then discuss how it felt to have freedom restricted or how it felt to be coerced.

William Schutz, author of the book, *Joy*, leads a group of school superintendents in self-awareness exercises at a weekend workshop at Esalen Institute during which they begin to realize, as they cramp each others' styles, how much they restrict the initiative and opportunity of their staffs and teachers.

This is humanistic education and it's happening in scattered locations throughout the country. In a book I have written on humanistic education, entitled *Learning to Feel-Feeling to Learn* (to be published by Charles E. Merrill Publishing Co., in 1970), I cite many more detailed descriptions of how feelings or the affective can be integrated with cognitive or intellectual learning to provide a more humanistic and relevant education.

I am not advocating in this paper that the classroom become primarily a therapeutic "couch" for children—though there should be some therapeutic things happening. I am not advancing a set of therapeutic procedures for teachers to use, though dealing with feelings can be therapeutic. Nor am I advocating that teachers become amateur psychoanalysts or replace counselors or school psychologists, though, perhaps in a humanistic school, counselors and psychologists might be freer from the rush of overwhelming emotional problems which prevent them from helping normal children find their own fulfilling place in this world. Most teachers are not professionally or legally qualified to perform the function of the psychoanalyst, though some research has shown that perhaps we shouldn't be as timid about this as we have been. (The work of Margaret Rioch[3] shows that selected housewives can be given training in a year or so which will enable them to do therapy as effective in quality as the work of experienced professionals.) So, in spite of the fact that I am not pushing for teachers to become amateur psychoanalysts, there is ample room and a great need for a bold move by educators and teachers toward the affective realm.

Not nearly enough is being done. Not enough information is being disseminated about what is being accomplished. Very little evaluation of the things being tried is being done, and there is very little money to support the things that the small group of courageous pioneers are attempting and accomplishing.

There is existing legislation, such as the Education Professions Development Act, which could provide some funds for teacher training in humanistic education. However, more money is needed for launching several pilot model humanistic education centers, for running some institutes and workshops, and for disseminating information nationally on what is happening. A relatively modest investment in three pilot humanistic education centers (funded in the vicinity of $3 million a year each, for a period of three years) would help give humanistic education the beginning it deserves. Funding is also needed for a National Education Dissemination System. Much of the work done in a dissemination program such as the one suggested in this paper would be done by the major film companies who would have to bid to corner significant blocks of the market from the school systems around the country. However, planning has to be done on the national level, and small grants of several thousand dollars to each of the 27,000 school districts in the country would be used to contract on a selective bid basis with the film companies for the dissemination service.

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[3] Margaret J. Rioch, E. Elkes, A. A. Flint, B.S. Usdansky, R. G. Newman, and E. Sibler, NIMH pilot study in training mental health counselors. *American Journal of Orthopsychiatry*, 1963, 33, p. 678–679.

Present trends toward increased leisure time; growing population and urbanization; rapid growth in the human service occupation sector; increased mobility; more racial, generational, and international contacts and conflicts; increased need for interdisciplinary communication to meet increasingly complex problems; greater opportunity for involvement in the creative arts; and greater estrangement from our bodily functions through excessive reliance on technological devices—all call for a more concerted effort of education in the affective domain. This call is beginning to be voiced in such disparate camps as the pioneers whose efforts in expanding the human potential for openness, honesty, warmth, and freedom were touched upon in this paper, as well as corporation executives desirous of improved efficiency through better communication, cooperation, decision making, and problem solving. While one group is predominantly humanistic, concerned with internal growth, and the other pragmatic, concerned with external results, they both share a conviction that man's life on earth can be made more rewarding through concerted efforts at humanistic education. Make no mistake, however; humanistic education is not a panacea; it will not correct all the world's ills, solve the pressing social problems of the day, or *guarantee* each of us a full life. But humanistic education is a step in a direction which offers us some hope for changing our schools.

In short, we are now at the edge of a new threshold. Just beginning to emerge are a number of new approaches to the extension of human consciousness and the realization of human potential. These implications mean, as William Schutz in his book, *Joy*, expresses it:

> . . . that we can enjoy other people, learn to work and play with them, to love and fight with them, to touch them, to give and take with them, to be with them contentedly or to be happily alone, to lead or to follow them, to create with them. And our institutions, our organizations, the 'establishment'—even these we are learning to use for our own joy. Our institutions can be improved, can be used to enhance and support individual growth, can be re-examined and redesigned to achieve the fullest measure of human realization. All these things are coming. None are here, but they are closer—closer than ever before.

The humanistic education movement which is now beginning to educate students about the feelings which they bring with them to school can help to bring Schutz's vision closer.

SUGGESTIONS CONCERNING EDUCATION IN THE 1970'S

Sidney P. Marland, Jr., President, Institute for Educational Development, New York, N.Y.

As one weighs the very large questions surrounding public education and the legislative opportunities pertaining thereto, one could construct an almost infinite array of needs. Rather than attempt an all-inclusive listing, I have cited below ten areas of concern, all of which deserve high legislative priority. Of these ten, I have developed two urgent issues, *Illiteracy* and *Vocational-Technical Education*, in modest detail and have developed a third issue of urgency, *the Teacher*, in considerable detail.

1. Expanded pre-primary programs for the poor and otherwise disadvantaged.
2. Very substantial increase in direct teaching and learning relationships between the business community and the schools, especially in cities. Tax incentives may enhance this promising activity.
3. Intensive application of educational technology to increase teacher productivity.
4. Universal retirement system for all professional employees of public schools to increase mobility and teacher freedom.
5. Very large increases in categorical fiscal support to the big cities.
6. Systematic articulation of responsibilities between schools and industry as we face the need for creating 1.5 million new jobs (and ready employees) each year.
7. Very substantial opportunities for in-service education of teachers to keep pace with change.
8. Illiteracy (See following)
9. Vocational-Technical Education (See following)
10. The teacher (See following)

In offering counsel on the education scene as I see it during the next decade, I have followed your admonition to "think broadly," and not necessarily in the context of a specific legislative design. Indeed, my notions may be only indirectly suited to legislation. But for what they are worth they may be useful as we try to perceive the settings in which legislation may arise, and educational programs may respond accordingly.

The following issues are not necessarily listed in order of importance, nor are they by any means all inclusive of the needs of the seventies. They are one man's perception of three of the large problems of education that may find their solution through Federal intervention and support.

LITERACY

One of the large, and still unresolved, problems of our time is the considerable number of American citizens, young and old, who cannot read or write. While heavy concentrations of illiteracy may be found among our ethnic minorities in cities, the problem is by no means confined to urban centers. Despite aggressive scholarly research, and honest and diligent application to the task by teachers and administrators, the solution to the illiteracy problem has eluded us. There are many explanations: lack of motivation, cultural obstacles, family indifference, environmental adversity, hunger, etc. Acknowledging all the explanations and justifications, we must, as a nation, discover ways to teach all mentally adequate citizens to read. Even at the expense of other very important programs, this essential function of civilized man must have pre-eminence in our priorities.

Otherwise, our best intentions in other social interventions such as job development, equal opportunity, housing, welfare and health, will have only passing and peripheral effect. Good starts have been made in literacy programs for adults under the Adult Basic Education support. Some slight gains have been made with elementary and high school children. The problem on all levels still remains unsolved for large numbers of our people. As a teacher, I am ashamed of the evidence.

VOCATIONAL-TECHNICAL EDUCATION

The late 1960's have brought fresh and promising examples of what can be done broadly in preparing Americans for satisfying employment. But, again, the surface has barely been scratched. For generations our public schools have glorified college entrance as the epitome of success and accomplishment. As a young and daring nation deeply committed to the democratic ideal of educational opportunity as distinct from our European, African, and Asian forbears, we have virtually achieved the goals of providing access to higher education for all who can profit from it, and who desire it. But we have achieved the goal at the expense of the "other half" of our population, who, for a number of good reasons, do not go to college, and need not. The schools have provided for this half of our young people a choice between a diminished version of the college preparatory program, or the option of vocational school, imposed at age 13 or 14, pre-ordaining a schooling in skills believed by our people to be something less excellent than college.

This has produced a sharp and counter-productive attitude among parents, teachers, and the public at large that classifies the vocational school as the place of demeaning expectations and, very likely, dirty hands. The parents of black and other minority group children are particularly emphatic in their perception of this dichotomy. A recent survey of parents in a large, inner-city high school revealed that 93 percent of the parents expected their children to go to a four year college—this, in spite of the actual college entrance record of the school at five to six percent of its graduates, and a desperately negative record of academic performance by 60–70 percent of the student body. Yet, any thought of vocational-technical education for immediate job entry following high school, in clearly established manpower requirements of the area, is repulsive to many parents and young people because of our folklore concerning educational excellence as definable only in terms of college entrance.

The attitude of the American people toward the world of work must be turned around. Great effort must be devoted, not only to the invention and implementation of creative vocational-technical curricular opportunities for young people, starting at about Grade Six, but also to massive changes in public attitudes, especially among minorities toward those who work with their hands. This is not to say that very large numbers of black and other minority young people should not go to college. Quite the contrary. But, like whites, many will not. We cannot risk longer this bitter experience of perhaps 50 percent of our young people—black *and* white—completing school with a euphemistic "general" education, that has no relevance to college, little relevance to job entry, and no relevance whatever to the young person in school. The emergence of the comprehensive high school, properly defined and implemented, carries the ultimate solution to this problem. Among the radical changes that may derive, if we truly mean to take the problem seriously, is the feasibility of having every high school student engaged for at least a semester in a genuine work-study program giving dignity and worth to work in its largest sense. Somewhere down this road the term "relevance" may find its place in the high school program.

THE TEACHER

The following passage may be easily misconstrued as an attack against the organized teacher. On the contrary it is a serious expression of concern by a school administrator who has viewed the increasing chasm between a board of education and faculty with deep distress. The administrator by definition, not by choice, is excluded from the role of championing the teacher. Yet he is not ready to cast his lot with the board of education as the teacher's adversary. Therefore, in this uneasy time he may be a useful participant in the chemistry of substantial changes now in motion, particularly as the advocate of children.

The past decade has brought a substantial change in the role of the teacher. For good or for bad, the teacher, especially in cities, has become a militant, insistent upon social and political force, sometimes appearing to serve children, and sometimes appearing more stridently to serve the teachers' personal gains. The power of traditional labor relations processes within the teaching profession has brought long overdue progress to teachers' circumstances, and has very possibly brought adversities in terms of education in general. There is a very fundamental question that might be asked, but which probably will find no answer. Would the present phenomena of student rebellion, defiance of authority, hostility, vandalism, obscenity and other forms of unacceptable social behavior in many of our schools have occurred if large numbers of teachers had not, themselves, first broken the laws, defied the courts, and coerced students to support strikes by absenting themselves from school illegally? Two thousand high schools and junior high schools during 1968–69 experienced rebellious student acts classified as violent. One may speculate at length on this question, without productive gains.

The fact remains that teachers' organizations have moved substantially and rapidly into the labor movement. It can be argued that this action has probably improved the personal circumstances of the teacher in terms of salary and other benefits. Whether it has favorably or unfavorably affected the lives and learning of children in the schools is not known. But favorably affecting the lives and learning of children is what schools are all about, as distinct from favoring the lives of teachers. No matter how earnestly and sincerely we believe in the upgrading of material and professional status for teachers, the ultimate objective of such effort must be the improvement of instruction. A circumstantial case can be offered to suggest that rival organizational efforts, clashes between teachers and supervisory personnel, work stoppages, and emotional tensions surrounding militant bargaining procedures have preoccupied the energies of many teachers to the disadvantage of children. No sound evidence has been offered by teacher organizations to demonstrate that improved circumstances for teachers have brought improved learning for children. Certainly, public funds have been diverted to teacher benefits as against other school needs.

Actually, if one were to generalize upon the swift products of collective bargaining in education, the profile would suggest that teachers are being paid more for teaching fewer children. Smaller class sizes are to be applauded if, correspondingly, learning improves. No general case has been made to show that learning has improved with negotiated reductions in teacher work loads. One must argue then that bargained gains for teachers, no matter how long overdue and justified, have been counterproductive thus far in the movement's history. There are two major issues arising from the shift of the teaching profession into the labor movement which may find their ultimate resolution in legislation. They are as follows:

1. Some of the conventional practices of labor are not suited to the teaching profession.
2. The teacher, now committed to a bargained arrangement with management, must accept the economic consequences calling for productivity and accountability.

Let us examine these assertions. One can make a long and tedious case for the distinctions between a profession and a craft. Such an argument would be more exhortatory than real, and would engage in largely semantic distinctions. One could also argue that teachers in general are underpaid, overworked, and underrepresented in sharing with administrators and the board of education in the determination of school policy. Some would hold that teaching is an artistic and creative act, not suited to accountability and productivity measures. This can be defended strongly as applying to individual teachers. However, when collective procedures are adopted according to established economic processes, the collective economic rules must apply. The logical conclusion is that labor-management procedures will resolve these problems to the teachers' advantage, and presumably to the ultimate advantage of public education in general, given time and appropriate legal foundations.

Setting aside partisanship on the issue of whether or not teaching should adopt conventional labor practices in seeking collective goals, let us examine the fundamental message of the labor movement. This message declares that unless certain conditions are satisfied, labor will withhold its services. This is a rational and classic, though perhaps oversimplified, expression of what labor-management relations mean. In the historic sense, the strike has been the essence of labor's power. It establishes a basic premise that employees are willing to undergo loss of income, and to make other sacrifices such as risking job security, in order to achieve a collective goal. This arrangement has taken the form of an acceptable set of rules for the labor-management relationship in America. Essentially, the product of the bargained solution is a larger share of the corporation's profits or other resources for the employee. The gains may take a variety of forms, broadly described under "working conditions" but ultimately suggesting a redistribution of dollars between stockholders and employees. This arrangement has served organized labor well. Employees have made sacrifices to gain long-term objectives, and have, broadly, assumed responsibility to increase productivity consistent with increased earnings.

In the public sector, these conventions of the labor-management model do not readily apply. They are especially inapplicable in the processes of public education. Basically, in the public sector there are no profits to be redeployed. There is only a public treasury, the distribution of which is expressly placed under the authority of a legislative body, Federal, State, or local, representing the people. In most instances the local legislative body is the board of education. In most communities the fiscal resources are fixed in terms of voters' decisions or other constraints that establish tax rates or other bases for funding education. The "redeployment" of such funds under bargained conditions virtually removes from the politically and socially accountable body (the board of education) the power to meet the total needs of a school system judiciously and responsibly. Given a limit on the resources, and given a bargained solution to a salary demand beyond the level of discretionary judgment by the governmental body, the redeployment of resources means that teachers' demands are satisfied at the expense of other program needs and responsibilities of the community—buildings, textbooks, health services, new instructional programs, etc. *There is no profit to be redeployed;* therefore, the customary protocols of industry and labor are inapplicable. The bankruptcy and the deficit borrowing of many school systems in the U.S. are testimony to this fact. In most large cities less than 4 percent of the annual revenues is available for discretionary allocation by the board of education, the balance being mandated by one form or another of fixed or negotiated policy and contracts.

Another disparity between traditional labor-management relations and education lies in the fact that in industry the parties have different organizational goals. In education, the contesting parties have only one goal—the education of children. Boards of education and teachers *all* serve one stockholder—the child. To remove from boards of education their discretion to disburse public funds is to remove from the people the control of their schools. A board of education without fiscal freedom cannot discharge the public mandate placed upon it by society.

There are numerous other discrepancies between conventional labor-management arrangements and the schools. Only one will be treated further here: the strike. Withholding services is a time-honored and accepted procedure for advancing labor's demands. The important element of the strike is the implicit sacrifice made by the employee. However, the strike in a school system departs markedly from the conventional model. Law requires that children attend school a fixed number of days a year. Moreover, social and political responsibility compels all concerned to serve children in school, consistent with national priorities and deeply rooted social policy. Therefore, the strike carries with it none of the implicit sacrifices or risks that obtain in conventional labor-management arrangements. The teacher may withhold his services as part of the collective effort. However, he knows that "days lost" are not days lost to him or to his income. By social compulsion as well as by law, the days will be "made up", and he will receive his full pay, plus whatever additional rewards result from the strike and its bargained conclusion. He takes no risk as an individual.

The strike is not against a public body, in reality, for the public body has no discretion as to whether or not children must be educated. It is ultimately a strike against children—a withholding of services from children, generally in violation of one or more laws. For teachers to exercize the traditional strike is a one-sided game, with only one winner—the striker. This violates the history and custom of labor's processes. It is an unfair enterprise.

Yet, it is a fact that teachers are organized, will be more organized, and should play a larger part in the formulation of public educational policy. But the strike, apart from being an unfair weapon in this enterprise, goes against all that teachers stand for—the essentiality of an education, the dignity of the individual, the acceptance of law and public authority, resolution of differences by intellect and good faith, rather than by force. It is believed that the great majority of teachers deplore the strike, find it diametrically contrary to their personal philosophy, and resort to it only in desperation.

Over the years, Congress has brought rational and affirmative legislation to bear upon labor-management arrangements in industry. We have prospered as a nation under these laws. But it is dangerous to assume that these same laws can be universally transposed to the profession of teaching and to the responsibilities of school governance. The modest penalties assessed upon teachers' organizations for violation of existing laws, whether in the forms of fines or imprisonment, are brushed aside as inconsequential by the alleged offenders, as necessary parts of the "justified civil disobedience" pattern. This is totally inconsistent with the historic place of the teacher as a model of civilized behavior. Correspondingly, in whatever form, the people have acquiesced to the bargained conclusion of the strike with little or no attention to productivity or accountability by the profession, in order to get the children back to school.

It is urged that Congress look with favor upon the need for teachers to organize in order to gain adequate compensation and working conditions, but that universal legislation be enacted in the national interest that will make the strike against children unnecessary and untenable, and that will preserve to the people the governance of their schools. This calls for creative new solutions to the arrangements between public bodies and school employees. No quick solution is offered for this complex problem, but so long as assumptions are made that industrial and craft union rules apply to teaching, the welfare of children, especially in big cities, is removed from the discretion of public bodies, and rests with teacher organizations.

It is very important that this problem be approached in a context which removes any implication of punishment or coercion toward teachers. It is not the fault of teacher organizations that old and irrelevant laws are transposed routinely and without examination to the emerging collective action of teachers. On the contrary, it is urged that whatever new legislation may be conceived be viewed as a design for elevating the level of collective action by the teaching profession rather than suppressing it. The goals of the legislation would be to remove the inequitable strike by finding a better instrument for the resolution of differences, and to apply the conventions of economic responsibility to the organized teacher, i.e., accountability and productivity as products of increased negotiated benefits, consistent with labor philosophy and performance.

EDUCATION'S "MOONSHOT" IN THE COMING DECADE

Tom McCall, Governor of Oregon and Chairman, Education Commission of the States, Denver, Colo.

We stand at the conclusion of a decade of unprecedented Federal activity in the field of education. Yet, for all our successes, education problems are still severe throughout the country, and many of them are related to or at least not alleviated by Federal aid.

Funding under Federal programs has been consistently uncertain, late, and often inadequate. The Congress has continually failed to appropriate the sums *which it has established itself* as the amount necessary to carry on programs effectively, even though educational institutions are directed by Federal agencies to plan on full funding.

Neither the U.S. Office of Education nor the States know how much money they can count on, nor can the colleges and universities be sure that what seemed like a Federal commitment to support a program one year will be continued the next. Consequently, neither the States, the local districts, nor the colleges and universities are able to plan and implement programs to their greatest effectiveness. It has been well said that "the fitful turning on and off of a faucet is not a method of economy; it is a guarantee of waste, both in dollars and in human resources."

There is widespread agreement that Federal aid programs are unnecessarily complex. Their fragmentation results in divided responsibilities, conflicting regulations, proliferating administrative requirements, and frequent changes in specific programs.

Further, Federal programs do not necessarily match State needs and priorities. While no one would deny the Federal government opportunity to exert a degree of leadership in education, the fact that State and local voices are not heard clearly in Washington results in decisions that are often based on other than educational needs as reflected in the States, and a distortion is introduced into education at the operational level.

Finally, the Federal aid system does not capitalize to the fullest extent on the opportunity to broaden the responsibilities of State and local authorities. Efforts are being made to strengthen State education departments, for example, and to substitute comprehensive State planning for the prevailing system of accountability for myriad specific programs. But this is only a beginning, and much more remains to be done.

We have reached the end of an era in which Federal support for education has been established. We have reached a point where we must assess our gains and our remaining problems, where we must reconsider and re-establish our goals. Before we assemble the hardware and initiate the countdown, we must determine our destination. The following is submitted as an attainable educational moonshot, clearly within our grasp in the decade of the seventies.

Every American child reaching four years of age on and after January 1, 1970, should have the *opportunity for at least 16 years of free year-round public education, adding preschool training and post-secondary education, regardless of the type of institution, to the usual twelve years of graded schooling. And for those who can benefit there-*

from, educational opportunities at the baccalaureate level and beyond must be made effectively available. For in the decade of the 70's, as has been suggested, the significant question will be not, "Who deserves not to be admitted?" but, "Whom can society, in conscience and self-interest, exclude?"

It has long been established that age six, when compulsory free education usually begins, is already beyond the period of children's greatest learning potential. We have long since ceased to think of a high school diploma as sufficient education preparation with which our youth can join productively in the world of work. We have made substantial efforts to implement both these conclusions. Now, lest we deprive millions of young people of the educational experience we know they need, it is time that we act on a much broader scale, for the disadvantaged and for all youth.

Preschool Education: Early childhood education is of demonstrated value to all children. It is of particular value in making up for the handicaps experienced by most disadvantaged children.

Prekindergarten and kindergarten programs are designed to create the foundations for later academic learning. Many of us tend to take education at this level for granted, yet a large proportion of American children do not receive it, and again particularly among the disadvantaged, what is provided is often far less than adequate. Children who have no preschool educational experience or inadequate experience are handicapped in meeting the education demands placed on them as they grow older.

Existing Federal programs in this area have not been without problems, but they have enjoyed substantial enough success to demonstrate that their expansion and continuation are justified. Federal activity in this area should extend preschool experience to the maximum number of children as fast as possible.

Primary Education (Grades K–3 where basic tools of education are acquired) needs a greater share of our total resources to assure small class size, highly trained teachers, teacher aides, and the best equipment and materials available.

Two-Year, Post-Secondary Opportunities. The two-year, post-secondary educational opportunities must be varied in character. They must include wide ranging vocational-technical programs, occupationally oriented, and adult education, as well as general education programs leading on to upper division baccalaureate programs.

Important improvements in vocational education have been made possible by Congressional action in adopting the Vocational Education Amendments Act of 1968. Steps should now be taken to capitalize on these provisions by developing within each state a comprehensive state plan for vocational-technical and adult education, with an appropriate program of Federal funding in support of the State plan. The present piecemeal legislation has had the effect of promoting duplication of programs, facilities, and faculties in different kinds of institutions often serving the same areas. It has made the development of a state-wide, coordinated plan for vocational-technical and adult education difficult, if not impossible.

Elementary-Secondary Education. Although preschool and post-secondary education are vastly important to the total concept of a free, quality public school education in the seventies, it is still within the structure encompassed in grades one through twelve that the great thrust of public education will occur and it is here that the greatest step forward can be taken in re-designing American education for the seventies. If the classic concept of the Federal partnership—Local, State, and Federal—is to function to its fullest in the field of education, it is within these grades that improvement can be made with greater certainty than in any other. U.S. Commissioner of Education James E. Allen, Jr., at the annual conference of the Education Commission of the States, said: "It is imperative that the States give full commitment to a thorough overhaul of their structure and practices and markedly accelerate their efforts to accomplish such things as strengthening their State education departments, eliminating inefficient school districts, updating school finance patterns, revising and simplifying education codes, raising and enforcing educational standards, and initiating incentives for better school performance." With his conclusions we concur.

It is clear that the States cannot in good conscience call upon local administrators of education to improve markedly their performance, nor can they ask the Federal government to provide a greater funding effort without first setting their own houses in order. Federalism finally is a partnership within which each partner provides, to the fullest of his ability to do so, the element or contribution for which he is best suited, to create a viable whole.

The Education Commission of the States was born of the certain knowledge that education is primarily a State responsibility. The Federal government has an important role in stimulating action, raising standards of quality, and assisting financially. Local authorities, on the other hand, have the operating responsibility for public elementary and secondary education, vocational technical schools, and, often, community colleges.

But States must bear the major responsibility for meeting the educational needs of their citizens. States must establish the broad policies and programs and assume the ultimate obligation of assuring the availability of adequately qualified personnel, facilities, and finances.

The Federal government has the responsibility to insure that, on a nationwide basis, education is provided in sufficient quantity and quality to meet national needs of the late twentieth and early twenty-first centuries, under its constitutional obligation to provide for the general welfare of American citizens.

In order that education may realize the accomplishment of its "moonshot" in the decade of the seventies, we make the following legislative proposals.

FREE PUBLIC EDUCATION

A reorganization of the Federal aid system should be accomplished by means of a Congressional grant of authority to the President, in the manner in which recommendations of the Hoover Commission were implemented, to consolidate and simplify all education aid programs.

The reorganization of the structure and the administration of the resulting system should be accompanied by provision for continuous and effective presentation of the State point of view to the responsible authorities. The Education Commission of the States intends to make a detailed proposal in the near future directed toward meeting this crucial need.

A three-tiered structure of Federal education aid programs is proposed, consisting of general aid, greatly broadened categorical aids which would become functional block grants, and a limited system of categorical aids to stimulate and support action in specific areas. Aid for early childhood, elementary, secondary, and vocational education should be dispensed within this structure, to the greatest degree feasible, to the States according to comprehensive State education plans, with adequate provisions to insure maintenance of State and local effort and to maintain and increase where possible the benefits transmitted to children and youth in private schools.

Such support would alleviate the financial burden on the States, support broad educational purposes, and enhance the flexibility of State application of Federal funds to State and local problems, Specifically, it would assist in provision of more years of free public education, increase the capability of States and localities to deal with the problems of core cities and sparse, depressed rural areas, and assist in the recruiting and maintaining of high-quality teachers.

To the extent feasible, this pattern of aid should be distributed to the States according to State-wide matching formulas which take into account school population, density and sparsity of population, relative State wealth, and the proportion of disadvantaged, handicapped, and educationally deprived. They should be established to achieve the following objectives:

—Compensatory education for the disadvantaged, educationally deprived, and handicapped children (physically, mentally, and emotionally), particularly though not exclusively in depressed urban and rural areas.

—To achieve better and more effective education through research, experimentation, and innovation and to provide incentives for greater effort in these areas.

—To strengthen State education agencies and local school authorities, and to develop the capability for high quality State comprehensive education planning behind each State's programs and its disbursement of Federal funds.

—To assist in training, recruiting, and keeping better teachers and to strengthen the personnel of State and local agencies.

—To help meet the needs of youths and adults for training to enable them to secure satisfying and productive employment, and to capitalize on the gains of this year's legislation by consolidating all such programs into a single program with a single administering agency.

—To assist in providing good school facilities, materials, and equipment for all while partially offsetting the inequalities in resources available for meeting those needs.

In addition, a functional block grant or some other effective means should be considered to provide strong incentive for inclusion of early childhood education in all school systems. Such a program should consolidate all Federal activities in this area.

Further, the discretionary development funds of the Commissioner of Education should be consolidated to make possible maximum flexibility and effectiveness in their use. As they now exist, such aids should be confined to those areas where a limited but concerted financial effort is called for in order to induce special effort. In many cases, these categorical aids should be considered temporary, since the activities they support should eventually become part of regular programs assisted through general and block financial aids.

Moreover, the program of financial aid to Federally impacted areas should be appraised and revised to insure an equitable distribution of offsetting compensation for the effects of all Federal programs.

Education programs should be fully funded at levels clearly related to the needs and financial capacities of States and local communities. Effectiveness of Federal aid programs is dependent on passage of authorizations, appropriations, and allocation of funds to the States no less than one year in advance. Every effort must be made to devise means to work out, in concert with Congressional leadership, effective and respected procedures for establishing funding levels and securing authorizations and appropriations sufficiently in advance for the States and local authorities to applythese funds within their systems to a maximum educational advantage.

The Federal government should eliminate legislative and administrative gaps from all Federally financed programs, not only in education but also in housing, employment, and other areas where certain prevailing conditions contribute to lack of equal educational opportunity.

AND SO INTO THE SEVENTIES

Neil G. McCluskey, S.J., Dean-Director, Institute for Studies in Education, University of Notre Dame, Notre Dame, Ind.

More than anything else, in our planning for the future we need to free ourselves of the models, methods, and mentality of the past. It makes little sense to bog our thought down in profitless quarrels over separation of church and state, or the government's role in education when the entire context has shifted—or will be shifting—into a twenty-first century setting. True, the next 30 years will be a period of transition and some parts of the country will be able to adapt more readily than others. It would be unwise to talk about dismantling what we now have while dreaming of what might happen in the twenty-first century. In addition, religious educators bear a responsibility for the spiritual formation and education of the present generation. Yet there must be dreams and brave experiments in the seventies geared to the technological revolution all around us.

Perhaps technology will have steered us by the eighties back to the home for much of formal education. Bringing young people together in a school has important social values, but no one any longer argues that group learning is the most efficient way of educating. Because the readiness level and the attention span vary so widely among pupils, the precise moment of learning is expectedly different among 25 or 30 learners. We have never been rich enough to put every pupil on a log with a Mark Hopkins on the other end, but it is easy to conceive of every child before too long with a computer tutor. Far from depersonalizing teaching, the machine may decidedly enhance the personal element in the process. As Stanford philosopher Patrick Suppes has pointed out, computer-assisted instruction (CAI) potentially bestows upon every learner a personal Aristotle.

Money will be a painfully obvious factor in determining what proportion of the total school enrollment will continue to be in the public or private sector of elementary and secondary education in the decade to come. Certainly one will no longer hear talk among Catholic leaders of "every Catholic child in a Catholic school." Hopefully, that survival of the nativist-immigrant religious strife, Canon 1374, which forbids Catholic children to attend other than Catholic schools, will formally take its place among the curios of history.

As a matter of record, the proportion of the nation's Catholic children that could be accommodated in separate schools has not varied greatly over a 40-year period. About one-half of the elementary-school-age group and about one-third of the secondary-school age group have always attended Catholic schools, which means conversely that the majority of American Catholic youngsters have always been in the public schools.

Beginning 1970, about 5 million pupils or some 10.5 percent of the total school enrollment are in Catholic parochial and private schools. Over the past four years, however, there has been a drop in the Catholic school population of more than one-half million, and close to a thousand elementary and secondary schools have shut their doors.

A comprehensive University of Notre Dame study of school closings made last spring found four reasons for closing schools or eliminating grades: 1) insufficient teaching religious; 2) insufficient funds; 3) insufficient enrollment; 4) and consolidation. Some seemingly contradictory notes in this picture, however, are: 1) more teachers are engaged in Catholic education today than in the peak enrollment years—e.g., in 1965–66 there were 177,219 teachers in Catholic elementary and secondary schools, whereas the corresponding figures for 1968–69 show a total of 188,343; 2) the pupil-teacher ratio is approaching an ideal national average of 28 : 1; 3) in hundreds of schools in different sections of the country there is an astounding upsurge of participation and support by parents and parishioners, generally; 4) in a recent Gallup poll 60 percent of those surveyed said they would like to send their children to parochial or private schools, whereas at present only 13 percent do so.

What will happen in the immediate future? Fifty-six percent of the Catholic school superintendents surveyed in the Notre Dame study stated that the scarcity of teaching religious was the chief reason for closing a school or curtailing classes. It is no secret that each of the last five years has seen several thousand religious women depart their convents and a diminishing flow of recruits entering religious life to replace them. Again it is no secret that qualified lay teachers expect—and are more and more getting—competitive salaries and fringe benefits to go into the parochial classroom, which has skyrocketed costs. A number of States, however, finally aware of the impact that wholesale closings of Catholic schools would have on their already strained school budgets, are pursuing ways of keeping them open. If the Ohio or Pennsylvania pattern catches hold (and is upheld by the U.S. Supreme Court), the states could supply a sizeable portion of teachers' salaries through the "purchase-of-secular services" principle.

In June of 1968, the Commonwealth of Pennsylvania took a historic advance which, if sustained by the U.S. Supreme Court, may help set a national pattern for the future and bring all aspects of American education closer together. Because of its critical import, the Pennsylvania situation and the new law deserve careful consideration.*

The Quaker State is typical of those heavily populated States whose creaky financial structure for supporting public education could topple at any time. Quite unintentionally and innocently the Catholic schools of the State could become the demolition agent of the antiquated structure. How? Last year these five conclusions were presented to the voters and legislators of Pennsylvania.

1. That nonpublic education—embracing 23 percent of all elementary- and secondary-school pupils in the commonwealth and effecting vast tax savings to the total public—is a factor of basic importance to the economy and the educational future of the State.
2. That any substantial reduction in numbers of the nonpublic school population spells severe economic hardship to Pennsylvania and a grave disturbance for her public schools.
3. That nonpublic education in Pennsylvania, which for eleven decades has borne the burden of immense service to the total public, cannot much longer meet the cost of continuing this service in spite of any desires or sacrifices on the part of its supporters.
4. That many public-school districts of the commonwealth are today faced with too severe financial difficulties to permit their accommodating substantial additional population resulting from reduction in nonpublic-school population.
5. That the solution of Pennsylvania's educational crisis is to afford nonpublic education a measure of support, within strict constitutional limitations, sufficient to enable it to continue to render its public service.

During the year that the bill was discussed, passed, and signed into law, Pennsylvanians spent $1.546 billion on elementary and secondary education. Of this total the state supplied $561 million, local taxpayers paid $635 million, and $350 million represented the value of the contribution of citizens who sent their youngsters to the nonpublic schools. The burden, difficult as it might be, spread across the State, would become crushing in the urban centers—at present the least well off of school districts so far as the tax basis goes. Maybe Pennsylvania has come up with only the partial answer, and maybe the High Court will knock it out. But if purchase-of-service does not get a fair trial, nightmares may just become the normal sleeping fare for executives, legislators, and public-school administrators everywhere in these United States.

Then, there is a new element in the picture. Perhaps things have just happened too fast but it is clear that the bewildered Catholic community, so long oriented toward parochial education, is starting to ask questions: Is it worth it? Is there an important difference? Will spiraling costs allow Catholic schools to continue without substantive public support? Suppose we consider each question briefly.

People usually can find money to pay for the things they value highly. In a nation which last year spent $25 billion for tobacco and liquor and $26 billion (just under 7 percent of its gross national prod-

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*****Catholic Education Faces Its Future,*** **by Neil G. McCluskey, S.J., Doubleday & Company, New York, New York, 1968, 285.**

uct, to operate its public elementary and secondary schools) money cannot honestly be the principal problem. If the Catholic community were truly convinced that the separate school is the necessary way to preserve and enrich the Christian faith for the next generation, then they would find the money. If Catholics generally were convinced that the school was the one best way, the clergy and laity would be terribly derelict in their duty for not having made provision from the beginning that every Catholic child were in a Catholic school.

Moreover, there still are a lot of Catholic pastors and parents who think there is a real difference. Maybe in the past too few Catholic schools have strikingly exemplified the ideal of the Christian learning community but contemporary pressures are making more and more schools articulate the ideal. In theory, at least, the Catholic school can move into areas which by law are forbidden in the public school. Though it is not easy to list the distinctive features of Christian education, at least it can be agreed that as an educational institution every Catholic school should concretely give witness to the reality of the Christian mystery. The details of witness may vary from situation to situation and from decade to decade but a universal component remains. The Christianity-oriented school is established to facilitate growth in charity by creating an atmosphere or perceptual field based on charity. Its basis is the reality of God the Father and the mission of His Son Jesus, who became the Son of Man to re-establish the order of charity among men and between mankind and God.

The re-examination of the Catholic school in the past seven or eight years has made it clear that the Catholic sponsorship of a school on any level does not guarantee its success as a school nor as an incubator of dedicated Catholics. Outcome studies to date have not found more than a few marks that differentiate the parochial-school product from the young Catholic or Lutheran from the public school if both come from relatively sound Christian homes.

Catholic education in the decades ahead is going to have to make some choices. Each diocese, each congregation or order will have to examine its resources and look at local needs—and then determine how best to render service. The approach must be innovative and courageous.

There will be no single pattern covering the entire United States of America. In some areas with a concentrated Catholic population and a tradition of solid support for good Catholic schooling the viable schools will continue.

In towns or cities where proximity of a Catholic and a public school makes dual enrollment practical, thousands of youngsters will be enabled to divide their day between the partner schools. Some dioceses may well be advised to revise drastically their commitment to separate Catholic schools and make use of their resources and personnel in new ways. The essential teaching objective of the church is to bring Christ to men—and formal schooling is simply one of the ways to do this. In any event, no matter what form it may take, the Catholic school remains a legitimate and desirable entity "wherever it is sociologically possible, pastorally desirable, and positively wanted by parents." Where it is not, there are valid substitutes. No longer can the Catholic school be considered the exclusive teacher of religion or moulder of youth in the Catholic Church.

Two important modifications will be prominent in the retooling process of the seventies: administration and finance. The parochial school as an independent, parish controlled and financed operation under the pastor is an anachronism. The Catholic school will be more and more a district or area school controlled and financed centrally by the diocese. The faster canon law on this point is also revised, the better. Likewise, the present system of financing Catholic schools is unbelievably archaic, obsolete, and inefficient. In this matter Catholics are a good 100 years behind the public-school system, whose architects long ago argued successfully that the burden of support for the commonly-used public school was a total community responsibility.

The move to better cooperation between public schools and Catholic schools would more readily come about if the American public school would formally make these acknowledgments:

1. That value formation is an important goal of schooling and not just a private matter to be cared for at home and in the church.
2. That as now constituted the public school cannot honestly by itself undertake value formation.
3. That those agencies which are competent by nature to inculcate values in the young are needed to complement the work of the public school in secular education.
4. That the States and Federal government should continue to find feasible ways to make cooperation between public and private schools work.

If the secular nature of the public school is accepted in a positive sense—as opposed to a nihilist or negative sense—the public school can invite outside agencies to work with it in planning and carrying out activities from which it is directly barred by constitutional prohibition or social wisdom.

While the dioceses and the teaching congregations in the church are making new commitments to education of the underprivileged, there is still a limit to what private resources can do. As the Federal and State governments address themselves to these same handicapped areas, it should be clearly in the national purpose for them to find appropriate ways to work with private educational agencies and even through them.

Again it should be clear that teaching aids created to educate for new social attitudes or to sharpen mathematical and scientific skills can never be fully successful if they are not made easily available to the private and church-related institutions. The same things can be said of almost any new pattern, like the proposed "educational parks." Without some provision to include all types of schools in such a complex, the original intent is thwarted. These remarks are made with the full consciousness that the American philosophy of separation between church and state does not always allow identical treatment of church-oriented and tax-supported schools but does call for the appropriate equivalence. In other words, even though the ways and means available to the Federal and State governments to make use of the resources of the private and church-related schools in confronting the racial problem in American education, for example, are constitutionally limited, they must be studied and, where feasible, employed so that these schools may serve as full partners with the public schools in the struggle for improved education for all.

The key issue is not simply to have or not to have parochial schools. It is Christian education. The dioceses and parishes must rigorously evaluate their efforts on behalf of all their people—children, youth, adults. Again, it must be stated that there will be no one blueprint which will prove applicable everywhere. Traditions, conditions, and resources vary widely among the 158 dioceses and 19,000 parishes into which is divided the Catholic Church, U.S.A., 1970. The question in its simplest form becomes: How perceptive are we, how well do we envisage the needs of God's people and the means of translating, reshaping, and discarding forms that have the dust of centuries upon them, while creating fresh forms that bear the spirit of Christianity and provide new relevance to an ancient message?

REQUIREMENTS OF AMERICAN EDUCATION IN THE SEVENTIES

William P. McLure, Director, Bureau of Educational Research, University of Illinois, Urbana, Ill.

Requirements of American education in the next decade have to be defined in terms of our long-term national goals and objectives. I believe the dominant purpose in American education is to provide opportunity for every individual to develop to the fullest of his capacity. This is the objective which each generation seeks to interpret as it shapes its pattern of living.

The seventies can be a period of renewed effort in our country to redefine national objectives, and in turn educational objectives which appear to be fundamental to cultural improvement. This period likewise can well be one of unique action in our history. What evidence do I have for this conclusion? First, there are many festering educational scars in need of healing. These are scattered in every state in such forms as archaic ideas of purpose, dilapidated buildings, inadequate facilities, and antiquated organization for the operation of a modern educational program. Second, there are exemplars to stir the confidence and imagination of men everywhere. There are some schools today coming close to possessing the capacity of performance which should be available to every child in every community of our land. These schools are coping with the rapid advancement of knowledge. They are demonstrating the potential rationality for planning and operating educational systems which can achieve objectives within reasonable limits.

The variability in the capacity of schools to meet the needs of all individuals is the most central characteristic of American education that must be corrected as soon as possible. There is enough dependable knowledge to chart new directions of growth and to remove the glaring deficiencies in our educational system.

AREAS FOR IMPROVEMENT AND DEVELOPMENT

There are certain broad areas where I think our country should focus its effort and resources in the decade of the seventies.

1. *Early Childhood Education.*—Nearly one-third of the children in America do not enter school until six years of age. Slightly over two-thirds enter kindergarten at age five. About a fourth enter nursery school at age three or four.

The knowledge about young children—their growth and development—suggests five specific programs that should be developed during the next decade:

(1) Kindergarten programs should be available to all children. In many school systems the kindergarten should be updated in the curriculum and the organization of the teaching staff. Double sessions should be eliminated in favor of a single session per day for the teacher.

(2) Plans should be made to establish universal nursery school programs for all children of age four. The length of the day, the nature of the program, the nature of the staff, and other considerations have been tested sufficiently to undertake this development.

(3) Experimental programs for three-year-old children should be supported widely among public school systems. Priorities for selection of children should be given to include all those with learning disabilities and sufficient numbers of others to explore the results for the total range of individual needs.

(4) The public schools should establish programs involving consultation and instruction to parents in connection with the development of children at all ages. Most existing programs of this type are either experimental or very limited in scope.

(5) Special programs are needed for children with severe handicaps who cannot be accommodated in the regular programs. These also should include day-care centers for working mothers and special problems where the home cannot temporarily care for the children.

2. *Elementary Education.*—This field of education should undergo some reorganization in conjunction with the extensions downward to younger age groups. Attention should be focused on programs with proper balance and sequence for the best development of children. Buildings and facilities must be designed to provide the essential educational environment.

The field of elementary education needs much revitalization that can occur only through modifications in the curriculum, organization of staff, methods of teaching, and the materials and facilities. Maybe a few examples will suffice to explain what I mean. The school should provide flexibilities such as nongraded organization in the primary years, team or shared teaching in the upper grades to utilize teaching talent, programmed instructional materials to supplement books and other conventional materials, and special laboratories for fine and practical arts. Music, painting, sculpture, and drama must be treated as basic fields of knowledge and skills commensurate with the developmental capacities of pupils. By the end of the sixth grade, students should be able to use simple power tools for creative interests. They should have organized physical education, suitable to their age levels and taught by specialists.

In many instances substantial changes in programs, methods of teaching, and use of present staff cannot be made within the existing physical facilities. Appropriate additions or expansions cannot be made merely by adding a few classrooms. A few isolated changes here and there may be helpful but a school must be physically designed and equipped to accommodate the programs and activities that are built around ideas.

Too few schools have been able to redesign their physical environments to conform to new educational ideas. There are others that have fallen short because of limited funds. Among the elementary schools constructed within the last five years that I have seen, at least 99 percent have severe restrictions that resulted from "corner-cutting" due to limited funds rather than limited ideas. There is built-in obsolescence. I estimate that under-investments in capital facilities are ranging from 20 to 50 percent. Some of these deficiencies are crimping the educational program sufficiently to forego additional staffing, thus holding down needed resources and operating expenses.

3. *The Middle School.*—Attention should be focused on the years of transition between elementary school and high school. Traditionally, this period has been called the junior high school, more recently the middle school. The issues are: What grades or age levels, and what curricula are best for the middle school? There are various combinations of grades: 5–6–7–8; 6–7–8; 7–8–9; 7–8. There are advocates of each of these; and so far as I have found there is no clear-cut evidence that one is entirely superior to the others. There is strong evidence that a period of three years is better than two, and that the combination 6–7–8 has more advantages than the others.

The changes in curriculum call for (1) greater depth and quality, (2) expanded breadth of fields of learning, and (3) reduction in the variation among schools by concentrating heavily on those most in need.

These changes will call for systematic planning and phasing of developments. The most fundamental considerations are: educational objectives and programs, methods of teaching and organization, and the necessary capital facilities.

Much of the needed change is to catch up with neglects of the past. Much is to move some of the exploratory and fragmented activities for a few pupils into mature programs of sufficient scope to serve all pupils according to their individual needs.

The knowledge and skills of pupils must be developed to higher levels than formerly. For example, in some middle schools orchestras, bands, and choral groups are performing at levels comparable to the typical high school of a few years ago. By the end of the eighth grade, pupils can master power tools and produce finished products of wood, plastics, metals, and ceramics. They can be well advanced in personal development in knowledge and talent if they have exposure to challenging experiences in all years after entrance to school.

These changes will cost more and not less, although the net costs may be less than anticipated in some districts. The additional investment in both capital and operating costs can yield far greater benefits per dollar to pupils and to our society than the present expenditures.

4. *The High School.*—The high school of today must gear its purpose and program to challenge pupils to achieve higher levels of knowledge and skill than in the past. Individuals must be prepared upon graduation from high school to continue their development through further education in either part-time schooling on the job or through college attendance.

The imperative changes in the high school are fundamentally similar to those in the lower grades: (1) reorganized learning content (curriculum), (2) revised methods of teaching, (3) reorganization of staff, (4) more emphasis on individual study, (5) greater flexibility in scheduling of teaching and learning, (6) expanded opportunities for developmentof talent in breadth and and depth, (7) a new focus on vocational education, and (8) a reconsideration of the total educational development of an individual regardless of his vocational interests.

The high school will continue to be a distinctive phase of formal education simply because of the maturity level of its students.

At the moment social unrest is most acutely reflected in this school than in the lower grades. The large numbers of pupils who drop out of school during these years present an unresolved problem. Likewise, those who graduate at a low level of achievement in most of their work present a problem closely akin to the dropouts. During the decade of the seventies the high school must offer new approaches and opportunities to these individuals.

CONDITIONS ESSENTIAL TO MEETING EDUCATIONAL NEEDS IN THE SEVENTIES

Now, I want to mention some of the general conditions which must be changed to expedite the needed educational improvements of the seventies. They are as follows:

1. The adult population must make a renewed effort to keep abreast of knowledge about human growth and development, educational objectives, and all the considerations involved in meeting objectives. The level of public understanding will be more crucial to the advancement of education in the seventies than ever in the past.

2. Some overdue changes must be made in the public school system. Most States have far too many local administrative districts to operate a modern program of education. Many archaic districts are perpetuated out of motives and attitudes that are only remotely related to the fundamental requirements for providing good educational experiences for youth.

The most critical areas for change are in the large urban districts and the sparsely settled regions. The large urban districts need internal reorganization to give the systems more viability and capacity to achieve their purposes. The areas with small, archaic districts need consolidation into units with sufficiently large school population to operate effective educational programs.

The American public school system is basically sound but it has to be kept up to date. Its failures have been only partial—not total. Contrary to what some critics may say, there is ample knowledge about what changes should be made in the educational system to give it the requisite capacity to achieve reasonable goals.

3. The educational profession must improve the art and the science of its expertise. Teaching is partly an art, partly a science. Both forms must continue to advance. New approaches and additional resources are needed in programs of colleges and universities for preparation of beginning teachers and for in-service education of experienced persons.

The professional expertise in the future will become more and more unique. We may expect advancement of knowledge about the use of technological devices and new learning materials. New methods for measuring performance of staff in relation to achievement of pupils must be developed.

4. The school year must be extended. Present expansions of summer school may be leading toward year-round operation with appropriate vacation intervals. Such an extension, with flexible scheduling, can add breadth and depth to the educational development of each child.

5. Financial support of education must be improved during the seventies. Improvement should take these forms: (1) provisions for capital and physical facilities as needed to accommodate program objectives, (2) provisions for adequate operating budgets to maintain viable educational programs, and (3) risk capital to introduce new programs and services and to operate them for reasonable periods of time before final evaluation.

6. American education needs a renewed public commitment and cooperation. There should be caution against over-simplification. In recent years there has been too much tendency to generalize a few prescriptions to all communities. Among the forms of commitment and cooperation, I view the following as especially important:

(1) Regeneration of constructive, humanizing interest in education.

(2) Use of dissent as a constructive means of exploration, debate, and analysis of problems and issues.

(3) Improvement in broad social participation in educational policy development.

(4) Willingness to venture: This means willingness to see the schools maintain a steady and systematic effort to explore, test, and develop new ideas where needs warrant.

(5) Willingness to pay the cost of improving the quality of education where tested knowledge shows the need.

(6) Reassessment of the benefits of education to our country and to the world: intangible personal and social values, economic values, and production of knowledge.

(7) Creation of new institutional support to assist public school systems in sick and hopelessly disorganized communities with unruly students, obsolete buildings and facilities, and harassed school staffs.

AREAS FOR NEW FEDERAL INITIATIVE

You requested that I think broadly about those areas where new Federal initiative might be stimulated. My suggestions on this subject are as follows:

1. Develop a program of general Federal aid to the States for public schools, including funds to support programs under the jurisdiction of public schools that are operated on a shared-time basis with the nonpublic school agencies. This program should possess two important characteristics: (1) stability and certainty from year to year, and (2) escalation of the Federal government's contribution until the proportion of support from this source places the states with lowest taxable ability within reach of adequate education.

2. Continue the practice of earmarking Federal funds for special purposes. However, the experience of recent years offers some suggestions for modification. First, I think some consolidations are needed. Broad areas should be earmarked rather than fragments of areas. For example, teacher training is one where higher educational institutions with credibility might be given special block grants to make an impact over a reasonable period of time for preparation of beginning teachers and the in-service education of experienced ones. Second, special aids should be designed to initiate and develop a practice or a field of practice to a stage of maturity for transfer into the mainstream of the educational program. At that time the special aid would be terminated and corresponding adjustment made in the plan of general aid. Present special aids should be evaluated to determine whether plans provide adequate support to develop the programs to this level of maturity.

3. The preceding suggestion may serve as a principle of transition from present Federal policy on earmarked stimulation grants to a new one which appeals most to me. The extent of educational innovation is variable among States and local school districts. There are common needs but differences occur in the mix of educational programs at a given time. A special aid to stimulate and assist in maintaining innovative development for the total school system is the principle that may need establishment in the future.

AMERICAN EDUCATION AND FEDERAL POLICY

Carl L. McQuagge, Dean, College of Education and Psychology, University of Southern Mississippi, Hattiesburg, Miss.

In addressing myself to the problem of Elementary and Secondary Education for the Seventies, I do not deem it necessary to deal with the question, "Why should the Federal government be interested in education?" Rather, the writer will concern himself with the topic of American education and Federal policy in the coming decade.

At the outset certain assumptions are made which seem to be basic and which I believe most Americans accept. These assumptions are:

1. That the American people are more convinced than ever of the necessity of providing education for the masses and that this education be based on the principle of *equal educational opportunity.*
2. That education as a State function should be strengthened.
3. That the amount and quality of education demanded by society will continue to increase.
4. That the Federal government will become more involved in the support of education than it now is.

THE IMPORTANCE OF EDUCATION

Before proceeding with the burden the paper, I want to deal briefly with the importance of education in our society. Through the centuries, the advancement of civilization has been directly dependent upon the acquiring of knowledge. This fact is dramatized by the advancements of civilization during the last 50 years which is said to be greater than the advancements for the previous 5000 years. This advancement has resulted from the great body of knowledge provided by research and the educational system developed for communicating this knowledge.

A State or nation cannot rise above the level of the education of its people. History is replete with examples to support this statement. Because of the value of education and its importance to the general welfare of this country, education in the final analysis is the most important function of government.

In light of the importance of education, the Federal government must concern itself with the kind and quality of educational opportunities available to the people. The problem at the national level is to make a clear determination of the role of the Federal government in education and how this role will be carried out.

THE GREAT IDEAL—EQUAL EDUCATIONAL OPPORTUNITY

Promoting the achievement of this ideal should become the basic role of the Federal government in education. I am not unaware of the needs for new programs and the improvement of quality in present programs but I am convinced that making educational opportunities available to all children on an equitable basis is the crucial job in education for the seventies. Educational statistics show that large numbers of children are not being provided the kind of educational opportunities they are entitled to and that great inequities exist within States and between States. Many States have made great strides toward equalizing educational opportunity, some are lagging far behind others, and none have fully realized this idea. The inequities between the States can only be alleviated from the national level. What greater and more important role can the Federal government take in education than equalizing the opportunities at a minimum level for all children. The achievement of this task will require the joint efforts of local, State, and Federal governments.

A PERMANENT FEDERAL POLICY NEEDED

A permanent, long-term Federal policy on education is needed. Such a policy is essential for stability. A major weakness of Federal legislation in the field of education beginning with the NDEA has been the instability of the programs. In order to develop strong educational programs of high quality, the administration of a school must be assured of stable financial support over a sufficiently long period of time. Nothing is more detrimental to providing quality education than changing legislation every two or three years and financial support that fluctuates from year to year.

A major criticism of educational legislation at the national level in recent years has been the instability of that legislation and the administration of it. Schools have no assurance of the continuance of many of these programs on a long term basis nor of the level of financing from one year to the next. Programs hardly get underway before they are changed. The one exception to this problem has been the legislation in the area of vocational education. Changes have occurred within a given administration as well as from one administration to the next. It appears that for the last three or four administrations the leaders have felt that they must develop a distinctive educational policy to characterize that administration. This attitude is unfortunate because it contributes to the instability of educational programs developed and supported from the national level. Instability in these programs means that they fail to achieve the results expected of them. Stability in and of itself is no guarantee of quality, but educational research has demonstrated that in order to obtain quality education the principle of stability must be present.

A second important element of national policy is the basis on which the Federal government supports education financially. In the past the basis of financial support has been to support specific programs. This policy has been modified to the extent of providing specific aid to individuals. On a smaller scale and with certain kinds of programs this policy has worked with a fair degree of success. As the type and size of programs have grown, their operation has become increasingly difficult. This difficulty is compounded when these programs operate outside the basic organizational structure of the regular programs in the system. Title I assistance under the Elementary and Secondary Education Act is an example of this difficulty, since its purpose is to provide compensatory education to children who qualify under the legal definition of poverty. Some of these difficulties will be discussed in the paragraphs that follow.

Title I regulations and objectives necessitate dual organization and administration within a school system. This situation is impractical and not conducive to achieving quality education. Recent reports and criticisms of Title I programs support this point.

Implementation of Title I under the guidelines makes it necessary to identify those students eligible to receive its benefits and deny these benefits to other children. Such separation of children is artificial and becomes educationally unsound. The general educational objectives of all children should be the same regardless of their cultural or economic status.

Identifying children as required by Title I ESEA separates children into two groups. This kind of separation is undemocratic, discrimintory in nature, and psychologically unsound. It does not matter from what circumstances a child may come into the school; he should not have any such label placed on him. Why are we creating another kind of discrimination which may be pyschologically and educationally worse than that which we seek to correct? Every child should come into a school on an equal basis with every other child, be afforded an educational opportunity suitable to his needs, and receive equal treatment.

The realization of these aims argues strongly for the establishment of a clearly defined national policy on education. Present policy serves as a basis for making appropriations only and supports piecemeal educational activity. The need for a clear policy on education at the national level is of far greater importance than specific programs. The policy should be established and legislation made in light of the policy.

A Suggested National Policy on Education

At this point I want to develop what I conceive as an adequate national policy on education. Under the general welfare clause the

Federal government should be concerned with the education of all children. If circumstances warrant, the government could continue to support special programs for segments of society, but education of all the children should be given priority. Federal legislation in cooperation with the States should provide a minimum level of education for all children. After all children have been guaranteed a minimum educational opportunity, consideration may be given to special programs.

As a part of the policy, all legislation should be designed and passed to support and strengthen education as a State function. A considerable amount of legislation in recent years has tended to weaken education as a State function. The chief reason for this weakening effect is the passage of legislation that creates programs enabling Federal agencies to deal directly with schools. Whenever legislation creates this kind of situation, it weakens the role of the State, results in problems of operation and administration, and decreases the effectiveness of the program. Federal assistance programs to education should operate through legal State agencies.

It is recognized that many of the State agencies would need to be strengthened in order adequately to organize and administer these programs. Strengthening these State agencies should be a basic part of Federal assistance to education.

Some programs have operated through legal State agencies, but the difficulty lies in the fact that they are adjunct programs and not part of the basic program. Title I of ESEA has been cited as an example of such a program. Good educational administration and experience have shown that to be most effective any program must operate within the normal organizational structure of a school.

Enabling legislation should be more permanent. Much of the legislation and the guidelines for implementing it have been changed frequently. This fact has also resulted in operating difficulties and kept many programs from achieving the objectives and effectiveness intended for them. The uncertainty of adequate appropriations to support the programs and the delays in appropriations have further decreased their effectiveness. The legislation and the appropriations for its support simply have not given schools sufficient lead time to do the planning necessary for its implementation.

In summary, the national policy on education should (1) be basically concerned with the education of all the children; (2) strengthen and support education as a State function; (3) give a greater degree of permanence to the programs it supports. Securing stability in educational programs, which is absolutely essential in assuring effectiveness, requires a clear and definite Federal policy. It is believed that the policy suggested above will achieve the stability needed.

A PROPOSED FEDERAL PROGRAM FOR ELEMENTARY AND SECONDARY EDUCATION

The question now becomes one of how the Federal government can develop a program of assistance to education within the framework of a policy such as that outlined above. The writer wishes to propose the minimum foundation program concept as a means of implementing the policy outlined.

To date, the minimum foundation program concept has proven to be the most successful basis for providing equal educational opportunity to all children yet developed in this country. This approach is used successfully by many of the States. It has served as an excellent means for equalizing educational opportunities between the districts of a State and there is great need of equalizing educational opportunity between the States.

The principle on which States develop foundation programs is to provide a minimum educational opportunity for all children and share the cost between the district and the State based upon the percentage of the State's wealth in the district. This approach has the distinct advantage of developing a program and then providing the financing for the program. It also has the characteristic of leaving each district sufficient tax leeway to support an educational program beyond the minimum foundation program. This provision is essential to preserve local support and interest and should be characteristic of any foundation plan between the Federal government and the States. Within the framework of this principle all the desired elements of an educational program can be provided. Once each element to be supported has been determined, the level of support can be fixed.

As a guide for determining a minimum program of education to be guaranteed to all children, present national averages could be used. I am of the belief that an educational opportunity equal to the national average should constitute the minimum opportunity for each child and that the cost of this education should be shared jointly by the States and the Federal government. The State's share of the cost should be determined by the percentage of the national wealth located within the State. Once the State's share is determined, the Federal government would supply the balance required to support the minimum program. Each State could continue to prorate the State cost between the local district and the state, based upon the location of the wealth within the State.

The elements of the program should consist of the general education now found in most schools, vocational education, early childhood education, adequate guidance and counseling personnel, adequate supervisory personnel, instructional materials and equipment, the essential auxiliary services, and adequate administrative personnel. In a minimum program supported by the United States government, administrative and supervisory personnel would include personnel at the State level as well as at the local district level. The level of support will be a most influential factor on the quality of the program.

In my judgment the most crucial issue in society today is the education of its people. If this belief is true, it follows that the area of greatest concern to the national government is the amount and quality of education provided every child regardless of his social and economic status, or his geographic location. Educational opportunity in this country can only be equalized by the Federal government and I doubt that this government can afford to neglect this responsibility any longer.

If the people of this country really believe in the great concept of equal educational opportunity, the time is now ripe for implementing it. Will the Federal government continue to neglect not only its responsibility but its obligation in this area? If the concept of equal educational opportunity is good and valid at the State level, it is good and valid at the national level. As of now, research and practice have produced no better approach to equalizing educational opportunity than the minimum foundation approach.

This approach seems to have merit in that it will provide educational opportunity up to an acceptable level for all individuals, enhance the quality of education, give it the stability and flexibility needed, maintain education as a State function, and provide a basis of Federal assistance without Federal control. It is suggested that if it is not feasible to implement such a program in each of the States, experimental programs should be started in a few States on an experimental basis.

SOME CONSIDERATIONS ABOUT EDUCATIONAL ISSUES IN THE 1970's

Margaret Mead, Curator Emeritus of Ethnology, the American Museum of Natural History, New York, N.Y.

Our present school system was designed a very long time ago, when we were an agrarian people. It has been added to, piecemeal, until finally we have reached a stage where secondary education is considered to be the right of all American youth, and a need of the American economic and political system. Furthermore, the population explosion has enormously multiplied our problems and the kind of class and race residential segregation that has developed has increased the strain on the school system. We need, if possible, to revamp the system in some way that will make it possible to make across the board changes instead of merely patching up a system which has outgrown its usefulness.

Such an across-the-board change might involve:

I. Building educational complexes which contain not only elementary and secondary schools, but also a community college, special teachers' training college, and provision for the re-education of the middle-aged, nursery school, kindergarten, and a mother-child education center. (It would be understood that the last three would be from the immediate neighborhood of the larger complex). Within such a complex, it would be possible for teachers of all levels to come to an understanding of the children whom they would be teaching, the education that their present pupils would be moving towards, and the changing character of the pupils whom they taught, as compared with the children they themselves had been, and pupils whom they had taught earlier. Instead of the formerly appropriate style in which teachers who knew taught children who did not know, we now need a system which provides for circular interaction between pupils, parents and teachers, in which each learns from the other. To do this a full range of learners, and teachers of each level, must be involved together.

II. Provision for children from the age of 14 on, to leave school for a period and engage in some kind of work experience which will focus their interest so that they can return to complete high school, with some genuine idea of the relevance of what they are learning. Our present type of schooling, designed for professional careers, is too long, often too long for even gifted but undecided young people, definitely too long for those who have no academic interests and have not seen the relationship between work and a life career. Various measures might be taken to facilitate this:

A. Youth work, supervised through the school, with adequate protection against the abuses once associated with child labor.

B. Youth allowance which would make both youth in school and those out of school have a sense of responsibility not based on parental resources.

C. Periods of work and schooling which alternate.

D. Increased use of young people in caring for young children and the aged, in which they would develop their sense of themselves through such contact with others.

E. A universal national service for both boys and girls to begin at age 18, whether high school was finished or not, with provision for finishing high school, or at the conclusions of high school. This might be preceded by universal national registration at age 16; a physical and mental and education check-up at this point, and preliminary selection of a sphere of service. Military service would be a more highly rewarded option. The young people could serve for two years, at subsistence pay, and be delegated to perform a large amount of the work once done by the intelligent, untrained, and illiterate who are not available today: work in hospitals, parks, fire fighting, etc. The existence of such a period would do a great deal to focus the work done in high school, and provide a rationale for more attentive scholarship and study.

Today college entrance is used as a focus for high school students' application to their studies. Opportunities of a much wider sort in a universal national service regime would do a great deal to reduce the sense of meaninglessness and imprisonment which now afflict so many of our high school students, kept there by law rather than choice.

F. Provision of educational allowances for all young people over fourteen without a means test, making them dignified and responsible members of society.

III. Steps must be taken to close the gap between those who are disadvantaged and those who are educationally advantaged. This requires:

A. Provision for attracting the best teachers to the areas where the children are most disadvantaged instead of our present system of sending them the worst.

B. Provision for a different kind of tax base, so that residential segregation by income groups will no longer penalize the children of low-income families.

C. Provision for early remedial work, seen as preschool but definitely relevant to the educational performance of pupils in elementary and secondary school education, especially in nutrition, widening of experience, early diagnosis of sensory defect, provision for protheses (hearing aids, glasses, etc.) for young children, and stimulation of parents.

D. Provision for early diagnosis of children who show indubitable signs of immaturity, emotional disturbance, early psychological damage, which would anticipate and prevent the personal and social costs of their becoming truants, dropouts, educationally retarded, delinquent and, in many cases, criminal. Books like the Gluecks' *Unravelling Juvenile Delinquency* demonstrate that a propensity to become a delinquent, in school and is society, is found very early. Early diagnosis, nutrition, medication, and special teaching could go a long way towards preventing this terrible waste, to individuals and to society. To accomplish this we will need a system of financing in which the benefits of adequate early diagnosis and preventive treatment would accrue *directly* to the same institutional complex as that which financed the rest of the educational system. To date, the most impressive estimates of the cost to society of letting a small child grow up illiterate or delinquent have had no effect because different people have felt the effects. If a school system received some sort of financial credit for each child diagnosed as a potential delinquent or potential dropout who did not become one, then it would be possible to mobilize both the educational bureaucracy and those taxpayers directly concerned with a particular school system. At present there is no immediate, tangible, and recognizable relationship between the costs of an adequate preventive program in the schools and the later costs of our delinquent homes, parole, and prison apparatus, to say nothing of the immense damage done to the society by crime.[1]

IV. We must move to re-establish smaller units within our vast metropolitan areas in which the size of the unit will be measured by walking distance. For small children, as for older people, this neighborhood within which they can walk and encounter the continuingly familiar is essential. Any form of planning which established vast education parks and larger and larger high schools should be combatted. The great advantages gained by consolidated schools in an earlier technological period are canceled out today because many of the technological advantages are now available without such excessive size, through the use of audio-visual systems and computer systems, and size itself tends to commit the students, at excessive cost to the social system, to long bus rides, and lack of relationship between the school community and the home community. This means in practice insistence on neighborhood schools, for small children, and high schools located within communities of 50,000 for high school-age pupils.

V. A more discriminating use should be made of the highly trained teacher vis-à-vis the teaching machine. It is possible to use the criteria of:

A. Those activities which bore the teacher or underuse her capacities as one way of determining how teaching machines can be used. They should be used for activities which bore the teacher and, in turn, bore the children.

B. A similar criteria should be used as to how we employ the time of our teachers. We have a teacher shortage. We will continue to have a teacher shortage. We must conserve their specifically pedagogical skills by relieving them of every activity that could be performed by a less specifically-trained person. There is no reason to believe that the need to conserve pedagogy will not increase rather than decrease.

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[1] The advantages of having the benefits from savings in one part of a system accrue to another part of the same system, rather than separating them, can be demonstrated very easily by comparing the operation of the British National Health Scheme, where each region is financially rewarded for keeping people out of the hospital, with the United States health schemes where there is no budgetary inducement to keep patients out of the hospital, as the savings on hospitalization do not go to those who are administering the out-patient part of the whole public health complex.

VI. We need a continuing assay of what children learn at home and from TV so that the schools will not duplicate what they learn at home, but can take advantage of what they have learned to move forward to teach them more of the very complex bodies of knowledge that they need today.

VII. More attention needs to be paid to individual difference and forms of diagnosis devised which will replace our present system of a calendar date for admitting children to kindergarten or first grade which works a gross injustice against some children, and standardizes unduly the behavior of other children who happen to be born within the same period. Such standardizations are no longer necessary. Admission can be individualized and make possible our full use of our capacity to recognize individual differences.

VIII. Barriers between the home and the school through which literate parents are prevented from teaching their children should be eliminated. As skills previously taught in school are learned by the general population, one after another should be transferred to the home. We do not send children to school to learn to talk unless they speak another language. There is no reason for their spending their time learning to read in school, if there is a literate parent at home to teach his or her own child individually. The same argument applies to skills such as telling time, making change, using the calendar, thinking about the past. As these skills become available through literate parents or TV, the school is freed to teach other things and to concentrate upon teaching children from homes where they are not learned.

IX. The idea that teaching should be a lifelong occupation should be seriously questioned, or some new form of re-education devised which will prevent the teacher from finding himself, or herself, further and further away from the pupils. It may well be that practices which obtained at earlier periods in American history should be revived in multilevel educational complexes, or in universal national services, so that a large proportion of gifted young people spend a portion of their lives teaching, and those who have followed different occupational career lines return to teaching in late middle age.

These are all ways in which the school system can be opened up to the community while retaining its central position in defining community membership. Association with the school of health centers, and centers concerned with work, employment, unemployment, old age benefits, etc., will facilitate a holistic relationship between the school and the community, especially if they can be organized to be collaborative rather than competitive in emphasis.

Although schools for young children will continue to have a different quality from schools for adults, if young adults are continuously involved in teaching children, within an educational complex that stretches from infancy through college, the distinction between learning and teaching can be drastically reduced. In a changing world this is necessary. In a changing world teachers learn from pupils, and pupils learn best by teaching. The school system of the future must reflect this.

EARLY CHILDHOOD EDUCATION—THE NEED AND THE CHALLENGE

James O. Miller, Director, National Laboratory on Early Childhood Education, University of Illinois, Urbana, Ill.

RAPID DEVELOPMENT AND ITS CONSEQUENCES

Gathering Momentum

The year, 1965, must stand as a lankmark year in early childhood education. The administration's investment in the war on poverty created Head Start. Head Start was a singular commitment to young children at the Federal level. While there had been other federally-sponsored programs for day care, they had not been directed toward serving the needs of young children *per se*, but were instituted to provide child care for women employed in critical war and defense industries during the 40's. Support for preprimary education had come mainly from middle-class and upper middle-class parents concerned with developing social and group experiences for their children. Other private programs existed, providing day care for children of working mothers. A number of universities had nursery school facilities associated with minor training programs. These facilities also served the research interests of professionals concerned with child development during the early years. It is fair to say that no national commitment nor universal interest in the field was evident prior to 1965.

Several converging forces of the post-war society provided the impetus which led to the momentous decision to support early childhood education programs for disadvantaged children:

(1) Mounting research evidence pointed to the importance of the child's early years as a critical learning and socialization period. The nature of early experience and the environmental conditions supporting the child's developing competence were considered crucial to later environmental mastery (Hunt, 1961; Bloom, 1964).

(2) The discovery of Piaget as a developmental theorist by American professionals, the emerging interest of the neobehaviorists in educational technology, and the exciting potential of von Bertalanffy's systems theory for developmental applications were several supporting movements which gave theoretical and practical impetus to early child development and education.

(3) Society's social and political conscience, aroused by the Civil Rights upheaval, saw in early childhood education the promising means of doing battle in the war on poverty. Equality of educational opportunity was a hollow victory, indeed, for the individual, if doors were closed to him because environmental circumstances had failed to provide the necessary support to insure educational success.

(4) Rapid technological advance during and following the war demanded highly developed abstracting and symbolic abilities on the part of the work force. These abilities were lacking in a significant segment of the population. At the same time, increased agricultural automation shrank labor opportunities for the unskilled and semi-skilled. Technological displacement was on the increase and the critical need existed to provide well-planned educational programs which could develop the individual skills necessary to compete in a highly technical society. It has been estimated that our present educational

systems are inadequate for approximately 25 percent of the total population. Early education was seen as a promising means to provide the foundation necessary for formal school success. These major forces set the stage for public acceptance and national investment in early childhood education for the disadvantaged.

The national response in interest and support to these forces is an exciting part of the record of the 1960's. The response to Head Start and its spin-off programs, Follow Through and the experimental Parent and Child Centers, had been an exciting confirmation of the public's faith in education as a means to preserve society and encourage individual betterment. It reconfirmed society's commitment to the individual and especially the nation's youth.

The Impact

In 1964 it was estimated that 25.5 percent of the three- to five-year-old population was enrolled in prekindergarten and kindergarten educational programs (Table 1). Two short years later, by contrast, the enrollment reached 31.6 percent of this age group. Since the number of children in the population between three and five years has remained relatively stable over this period of time, somewhat in excess of 12 million, such a percentage increase represents approximately 700,000 children newly enrolled in preprimary educational programs. Over half of this numerical increase, 400,000, has been attributed to Head Start and programs for the disadvantaged supported under the Elementary and Secondary Education Act. The rest is due to nontargeted federally-sponsored programs and other publicly and privately supported endeavors.

TABLE 1.—*Percentage distribution of October enrollment of 3- to 5-year-old children by family income group for the United States: 1964, 1965, 1966 and 1967*

Income Group and Year:	*Percentage*
Under $3,000:	
1967	21.2
1966	19.3
1965	14.4
1964	15.1
$3,000 to $4,999:	
1967	26.0
1966	21.3
1965	21.0
1964	19.8
$5,000 to $7,499:	
1967	29.0
1966	29.0
1965	26.3
1964	25.8
$7,500 and over:	
1967	38.5
1966	37.8
1965	37.4
1964	37.2

Adapted from "Preprimary Enrollment of Children Under Six," October, 1967 published by Office of Education, U.S. Department of Health, Education, and Welfare. OE-20113.

Table 1 clearly indicates where the impact of these programs has been. While an increase in enrollment can be seen across all income groups, by far the greatest increase has occurred at the two lower income levels, a little over 6 percent in each category. Clearly, the targeted programs had dramatic effect. However, the affluent enroll a far greater proportion of their children in preprimary programs than do any of the other three categories. The range is from a minimum of 10 percent to a maximum of 20 percent greater enrollement. Obviously, we are not yet reaching a significant proportion of those most in need of preprimary educational programs. In fact, to bring the enrollment of the least served to the level of the most affluent would add in excess of 800,000 children to preprimary educational programs. Such an increase would match the growth over the two years represented but stands as a poor rationale for determination of need. It simply would bring the level of use to that of the most affluent economic groups, those whose family income is in excess of $7,500 per year, a sophisticated "keeping up with the Joneses" strategy.

Of the 25 million preschool children (0 to 6 years) in the United States, a little over 12 million are in the preprimary age bracket (3-, 4-, 5-year-olds). The greatest percentage are enrolled at the kindergarten level, where State aid is available in 29 states. At the present time, approximately 225,000 children, or 30 percent of the population, are served in licensed day care facilities. Of the 70 percent which are served by publicly-supported programs, 66 percent are at the kindergarten level, with public support going to only 5 percent of those enrolled who are three years of age and under. Only California provides comprehensive State aid for day care. Federal legislation passed and pending will significantly increase the amount of public support for day care services in the future, however.

The highest impact area for the federally-sponsored programs has been in the larger metropolitan areas (Table 2). The rural areas have been served much less than have the more densely populated urban and suburban areas. Nonwhite enrollment is greater than that of the white group in general and must be accounted for by federally-sponsored programs at the four-year-old level, since at both the three-year-old and five-year-old levels, white enrollment exceeds that of nonwhite. Table 3 summarizes enrollment by income, occupation, residence, and region. The level of public support for kindergarten is higher than for prekindergarten, which serves mainly three- and four-year olds.

Enrollment of children in white collar families greatly exceeds that of children in manual or service workers families. This undoubtedly reflects both a higher motivation for educational services and the wherewithal to pay for them. The level of enrollment of children of the unemployed is similar to that of the manual or service workers children. Referrals by welfare agencies are probably instrumental in bringing this about.

Enrollment in rural areas in the southern region of the United States is much less. The South lags behind by approximately 10 percent. If migration from the rural South to the inner cities continues, the need for preprimary education will undoubtedly increase in the metropolitan areas.

In the aggregate, the foregoing demonstrates vividly the accelerated growth in the field of early childhood education from 1965 to 1967. While growth during the two intervening years since data have been available for study has probably not shown the rapid increases of the previous two years, it appears safe to assert that growth has continued. Certainly the problems we face are much clearer than they were in 1965. However, the trend is toward expansion in the field which will only accentuate these problems.

TABLE 2.—*Number of 3-, 4-, and 5-year-old children in the population and number and percent enrolled in preprimary programs, by residence, age, and color, United States, October 1967*

[Numbers in thousands]

Age and color of children	SMSA [1] central cities			SMSA [1] outside central cities			Non-SMSA [1]		
	Population	Enrolled in preprimary programs		Population	Enrolled in preprimary programs		Population	Enrolled in preprimary programs	
		Number	Percent		Number	Percent		Number	Percent
Total, 3 to 5 years old	3, 348	1, 227	36. 6	4, 342	1, 542	35. 5	4, 548	1, 098	24. 1
White	2, 343	855	36. 5	4, 029	1, 422	35. 3	3, 910	990	25. 3
Nonwhite	1, 005	372	37. 0	313	120	38. 3	638	108	16. 9
Total, 3 years old	1, 069	96	9. 0	1, 427	110	7. 7	1, 497	68	4. 5
White	749	68	9. 1	1, 317	95	7. 2	1, 279	54	4. 2
Nonwhite	320	28	8. 8	110	15	13. 6	218	14	6. 4
Total, 4 years old	1, 131	303	26. 8	1, 459	383	26. 3	1, 496	185	12. 4
White	789	195	24. 7	1, 356	340	25. 1	1, 288	153	11. 9
Nonwhite	342	108	31. 6	103	43	41. 7	208	32	15. 4
Total, 5 years old	1, 148	828	72. 1	1, 456	1, 049	72. 0	1, 555	843	54. 2
White	806	593	73. 6	1, 356	987	72. 8	1, 342	781	58. 2
Nonwhite	342	235	68. 7	100	62	62. 0	213	62	29. 1

[1] SMSA—Standard metropolitan statistical area.

Note.—Excluded from the enrollment data in this table are 444,000 5-year-olds in programs above the kindergarten level. Also excluded are the population and the preprimary enrollment (157,000) of 6-year-olds.

TABLE 3.—*Summary of characteristics of 3-, 4-, and 5-year-old children enrolled in prekindergarten and kindergarten programs, United States, October 1967*

[Numbers in thousands]

Characteristics	Total population	Total enrolled in preprimary programs		Enrolled in prekindergarten programs		Enrolled in kindergarten programs	
		Number	Percent	Number	Percent	Number	Percent
Total	12, 242	3, 869	31. 6	712	5. 8	3, 157	25. 8
White	10, 283	3, 267	31. 8	563	5. 5	2, 704	26. 3
Nonwhite	1, 959	601	30. 7	149	7. 6	452	23. 1
Family income: [1]							
Under $3,000	1, 333	282	21. 2	46	3. 5	236	17. 7
$3,000 to $4,999	1, 973	513	26. 0	99	5. 0	414	21. 0
$5,000 to $7,499	3, 439	997	29. 0	140	4. 1	857	24. 9
$7,500 to $9,999	2, 358	780	33. 1	127	5. 4	653	27. 7
$10,000 and over	2, 269	1, 002	44. 2	243	10. 7	759	33. 5
Occupation of family head: [2]							
White collar	4, 178	1, 652	39. 5	395	9. 5	1, 257	30. 1
Manual or service	6, 085	1, 687	27. 7	236	3. 9	1, 451	23. 8
Farm	540	101	18. 7	12	2. 2	89	16. 5
Unemployed or not in labor force	1, 097	304	27. 7	47	4. 3	257	23. 4
Residence:							
SMSA central cities	3, 348	1, 227	36. 6	274	8. 2	953	28. 5
SMSA outside central cities	4, 342	1, 542	35. 5	289	6. 7	1, 253	28. 9
Outside SMSA's	4, 548	1, 098	24. 1	149	3. 3	949	20. 9
Region:							
Northeast	(3)	(3)	34. 6	(3)	6. 2	(3)	28. 4
North Central	(3)	(3)	34. 0	(3)	5. 1	(3)	28. 8
South	(3)	(3)	23. 3	(3)	5. 0	(3)	18. 3
West	(3)	(3)	38. 4	(3)	7. 8	(3)	30. 6

[1] Excludes children with family income not reported.

[2] Excludes children with occupation of household head not reported.

[3] No figures shown, since regional data are not controlled by independent population estimates.

NOTE.—Excluded from the enrollment data in this table are 444,000 5-year-olds in programs above the kindergarten level. Also excluded are the population and the primary enrollment (157,000) of 6-year-olds.

Some Troubling Signals

The Children's Bureau estimates that approximately 38,000 children are left totally uncared for while their mothers work and that double that number are looked after by other children under the age of 16. It is estimated 1,050,000 disadvantaged children from birth to six years of age need full day care. Presently, there are only 110,000 places in day care programs for these children. Of the 12 million children in the 3- through 5-year age bracket, approximately 4 million come from disadvantaged environments. As pointed out above, only 400,000 or 10 percent of the children from this group are presently being served.

These facts are influencing pending legislation and policy. At the Federal level, enabling legislation is before Congress to allow collective bargaining to include provision for day care for the children of employees. The administration has committed itself to doubling the parent and child center experimental program. Recently passed amendments to the Social Security Act make provisions for day care of children receiving aid under AFDC.

Other developments on the Federal and State levels underscore the future demands and strains which will be put upon the field. The Federal Panel on Early Childhood Education recently issued its *Federal Interagency Day Care Requirements.* These program standards and regulations are applicable to all programs supported wholly or in part by Federal funds.

Of particular significance are the mandatory provisions requiring educational opportunities to be provided for every child in Federally sponsored programs. The educational activities must be under the supervision of a person trained in child growth and development. Our lagging training capabilities will be strained to the utmost to provide preservice instruction and experience to fill this need alone.

Further, the program must contain activities designed to influence "a positive concept of self and motivation to enhance his social cognitive and communication skills." This underscores the need to develop early childhood educational models appropriate for application under a variety of conditions.

The mandatory provisions also require appropriate materials and equipment to implement the program. Socially responsible institutions must develop sound technological assistance for instructional programs which will protect the public from investing in gadgetry of little educational significance.

There are kindergartens for five-year-olds in slightly more than half of the states now. Several States which do not yet allow or provide public support for kindergarten are passing legislation enabling it or making it mandatory. Beginning with the fall term of 1969, all handicapped children who might benefit from an educational program from the age of two must be provided such services by the local school district in the State of Connecticut. Similar legislation is pending in the State of New York. Our knowledge is woefully inadequate as to the relevant processes and programs which will benefit preschool handicapped children. Yet, the responsibility and obligation have been assigned to local school districts to service the needs of these children. To whom, to what institution, to what source will they turn for sound and proven models to implement?

In addition, other organizations are advocating increased investment in early childhood education. The Educational Policies Commission of the National Education Association (1960) maintains that "all children should have the opportunity to go to school at public expense beginning at the age of four."

The Research and Policy Committee of the Committee for Economic Development (July 1968) stated:

> **We believe that early schooling is probably desirable for all children, that it is a necessity for the children of the culturally disadvantaged areas. We, therefore, recommend extensive experimental activity in preschooling, not only in the substance and process of instruction but also in organization, administration, and finance. We urge the establishment of both public and private nursery schools, especially in the neighborhoods of the disadvantaged.**

These are but a few of the trends and events which point to the critical period of initiative facing early childhood education. Not only have we the residual problems of the past urgently demanding solution, but the problems of the present and future with which we must contend.

Persistent Problems

The major problems which quickly became apparent in 1965 have not been resolved, nor do solutions appear to be quickly available if we continue our present fragmented and piecemeal approaches to solutions. In essence, the decision to mount a massive preprimary educational program for the disadvantaged highlighted our woefully inadequate resources to meet the challenge.

(1) *Inadequate Knowledge of Processes Underlying Development.*—Despite the knowledge and evidence concerning the importance of the early years for developing competency, knowledge concerning the relevant underlying processes was lacking. Such information is essential for developing sound educational intervention. It must be remembered that only four years had passed since Hunt's compilation of the diverse evidence supporting the effects of environmental conditions upon intellectual functioning. In the main, his evidence was scientifically circumstantial, as was Bloom's 1964 work. Given the validity of their syntheses, major efforts remain to be undertaken to fill the knowledge gaps concerning the development processes underlying intellectual functioning and the supporting systems necessary to nurture growth. By 1965, hardly enough time had elapsed to identify the specific relevant variables, to understand the underlying processes, and to translate this information into tried and proven educational models.

An essential first priority in the months and years ahead must be a concentrated effort to understand the underlying processes of early development as they relate to individual competency. Production of such knowledge can best be accomplished in the context of a planned and systematic attack designed to serve the development of early educational models. The power of such a commitment lies in the explicit continuous feedback which a mission-oriented system can marshal. There can be no equivocation on the importance and necessity of extending the relevant knowledge base.

Guidance for deploying our effort and resources to the most relevant areas of investigation must come from systematic synthesis and integration of present knowledge with a sound conceptualization of tactics to be employed in a program of basic research.

(2) *Poor Program Definition and Specification.*—The social urgency of the problems of disadvantaged children led us to implementation of programs long before the data were in to support their efficacy. Programs were initiated on the assumption that anything was better than nothing at all. Consequently, these endeavors reflected the full gamut of philosophy, content, and methods without a solid foundation of fact or proven results. The criticism is not of program diversity. This strategy is necessary to meet the needs of a heterogeneous population. Such pluralism, however, implies carefully planned strategies and well documented justification for the total program. In most instances, heterogeneity of programs was the result of little knowledge of the best that was available and without readily available guidance or models to follow.

The essential contribution of these programs was to educate the nation as to the importance of the early years and rally opinion in support of the possibility of beneficial results. However, such a laissez-faire philosophy toward implementation and program development led to such heterogeneity that sound evaluation was impossible. Reports of benefits were in the main impressionistic, hardly a sound basis for developing future policy. The inadequacy of programs and implementation points up to the necessity of an integrated effort to provide early educational models appropriate for implementation in a variety of contexts.

An iterative strategy *must* be employed which will provide early educational models based on the best information available at that point in time. The strategy *must* include means to incorporate new knowledge being produced. This implies program pluralism and responsible flexibility based upon a comprehensive integrated system of research and development.

(3) *Inadequately Trained Staff and Training Capabilities.*—Program quality is in part a function of the personnel who must implement the instruction. In 1965, as in 1969, the story was too few personnel available with adequate training, nonexistent preservice training capabilities, and inadequate inservice training commitment or support. Discussion of these issues and some modest recommendations have been made elsewhere (Miller, 1969).

In summary, it was pointed out in that document that a crisis in staffing exists now. The immediate problem of providing adults to man classrooms was met by using inadequately trained personnel. The need for appropriate inservice training and using innovative models was advocated in that paper. Both preservice and inservice capabilities have lagged far behind demonstrated need. Those training programs which are being developed reflect little understanding of or conversance with available substantive knowledge, the children, or needs to be served. The meager resources available for development of training programs appear to be distributed on the basis of inappropriate criteria.

Preservice and inservice training must be closely related to the development of sound program models. Demonstration facilities must be available where these models can be shown in operation. Inservice training must be available in the reality context of the work situation. New patterns of career development utilizing untapped resources, such as the community colleges, must be employed if this problem is to move toward solution. Without a unifying force which can demonstrate the power of an integrated national program, the outlook in this area appears dim, indeed.

(4) *Nonexistent or Inappropriate Objectives.*—A great deal of confusion existed in 1965 as to the objectives of the educational program for Head Start children. The same condition exists for children from other environments, but we will make the point specifically with programs targeted for the disadvantaged. Confusion over objectives has not yet been resolved and, unfortunately, the confusion has a profound effect upon the development of adequate instructional programs, as well as preservice and inservice training programs for classroom personnel. The confusion apparently involves priority of objectives as well as their appropriateness. Many have seen the federally-sponsored preprimary educational efforts as directed toward eradicating the social problem of poverty. Specifically, the prime objective of the program was to offer more job opportunities for the poor. Others have seen the programs as a means toward providing political leverage and power for the disadvantaged.

While these objectives may be laudable from a social viewpoint, they are neither necessary nor sufficient for early childhood educational programs. While specific program objectives may vary from individual to individual and from group to group, the focus in early childhood education must be upon the child and those immediate support systems and conditions which will optimize the development of the individual and provide the social competencies necessary for responsible environmental mastery. Clearly, such a statement needs greater explication and refinement to establish set priorities and criteria by which attainment of specific objectives can be judged. However, the child and his immediate ecology are clearly the orientation, pointing to the primary target of responsibility, and this orientation is necessary if we are to be serious about the mission.

The problem of objectives becomes more critical as we move to specific program models. Without a clear statement of objectives, instruction, methods, and techniques take on a smorgasbord flavor. With untrained classroom personnel and a heavy reliance on paraprofessionals, classroom experiences are meager in content and the emphasis soon degenerates to issues of classroom control and behavior management.

Clear statement of overall objectives, as well as specific objectives, is important for instructional continuity and progress. Clear statements are fundamental to the development of early childhood educational models which are appropriate for implementation in many settings. It is essential for evaluation.

(5) *Inadequate Evaluation and Instrumentation.*—The problems of evaluation and instrumentation are closely associated with those discussed previously. Three needs can be readily identified as essential to the field and high on the list of priorities for systematic development:

(a) *Instrumentation.*—The field is in desperate need of adequate instruments to measure a wide range of child performance behavior. These instruments should be so designed and constructed that they will provide diagnostic information prior to educational intervention, be usable for assessing progress, and be adequate for reliable measurement of attainment of terminal behaviors. They should be carefully constructed to provide information concerning the processes of development.

(b) *Systematic ecological observation.*—Program effects should be observed throughout the child's ecology. Changes in that ecology, particularly in the support systems which nurture and encourage his continued development, should be systematically recorded as an index of program effectiveness.

(c) *Theoretical models of change.*—We need a calculus of change which will provide reliable means of assessing progress over time. There is a strong possibility that the lack of results in some of our interventions is intrinsic to our means of analysis and errors of measurement rather than lack of efficacy in the educational intervention itself. Measuring and assessing change is a critical problem in the area of evaluation.

These three major areas touch at the output end of the evaluation continuum, while little attention has been placed at the input end. Essential to evaluation is the development of criteria. In terms of child performance, development of adequate behavior criteria was implied. However, nothing has been mentioned concerning cost-effectiveness, social impact, and other areas of concern which are particularly important for decision makers prior to installation of programs. It is my firm conviction that these problems can best be attacked and resolved within the context of a comprehensive program which mandates this line of inquiry and development.

(6) *Indecisive Funding and Support—the Federal Role.*—No one would construe the Federal role in education as one simply of defining need and initiating programs for which the State and Local authorities in due course would take responsibility. Yet, even a casual reading of the record would lend substance to such an interpretation. No one would seriously contend that the role is simply to turn back funds to the States which the Federal government could more efficiently collect. Yet, there is evidence to support such a definition. Few would argue that the role of the Federal government is to assume responsibility for control of education in the nation. Yet, some would make the case that we are well along on such a course. It is precisely the ambiguity regarding the Federal role, however, which gives rise to indecisiveness concerning funding, mechanisms for support and those functions and institutions appropriate for reaching national objectives and priorities.

The field of early childhood education, perhaps because of its dependence upon Federal support at this point in its development, has been particularly vulnerable to Federal capriciousness. Head Start is a notable example of the problem. Funding schedules have been constantly violated, causing havoc at the program level. Recruitment and retention of high quality staff have been impossible under conditions where promises made were broken because funding schedules were not met. Research and development work cannot be divided into neat annual packages conforming to Federal bookkeeping procedures, an imposition which has militated against significant achievement and breakthrough. A fair test of the efficacy of educational programs cannot be made when premature and inappropriate evaluation is imposed. These nagging and persistent problems may well be alleviated when the role of the Federal government is clearly defined and it assumes the responsibilities which can only be met on a national level.

Many of the difficulties and criticisms of the Federal role in education appear to revolve around Federal activity at the implementation level, a State or Local prerogative. Head Start has experienced this problem, as have various titles of the Elementary and Secondary Education Act. Direct support of programs at the implementation level will always raise the question of control and responsibility.

Unfortunately, the Federal record of support of the role which it so clearly must assume—production of knowledge and systematic translation of that knowledge into soundly tested programs—is meager and spotty. It has been estimated that approximately one-half of one percent of the Federal expenditures on education has gone into this specific national responsibility. Krathwohl (1969) has compared this record with the 3 percent investment in research and development on the part of other sectors of the economy. Less than one-twentieth of that one-half of one percent has been earmarked for the field of early childhood education, where it is most critically needed. Tragically, this condition persists despite declarations on the part of the present Administration and the previous one to the effect that interests of children under six were a first national priority. Meager and unreliable Federal involvement in its prime educational function will continue the fragmented efforts toward solution of the most critical problems of education, in general, and early childhood education, specifically.

If we accept the doctrine of State and local control over and provision of educational services (implementation level), the role of the Federal government in education must be to provide the means of developing comprehensive exemplary programs in targeted educational areas of need. Specifically, in the field of early childhood education, the Federal government must support a comprehensive and integrated program organized to produce and translate knowledge into a variety of testable early educational models, demonstrate their efficacy, and provide advisory services for their installation, maintenance, and evaluation. This program of exemplary leadership can only be implemented at the national level with major support coming from the Federal government.

A Constructive Step

Krathwohl (1969) advocated in his AERA Presidential Speech the establishment of a series of national institutes for education focused on significant educational problem areas. Nowhere in the field of education is the need more essential, the instrumentality and means more available, nor the time more critical than early childhood. I propose the development of a National Institute on Early Childhood Education. Clearly, we must bring order and a concentrated effort to a field which has such high social priority. Early childhood education, so new to public support, offers a golden opportunity to establish fresh patterns of attacking educational problems. We must develop institutions which are anticipatory and future oriented rather than merely respondent if we are to make significant progress on educational problems of national scope. This institute would be the focal point of the national commitment to early children. Autonomous in organization, its major function would be to develop the national perspective through its integrated program and activities.

I see such an institute as having five functional capacities, four of which require direct substantive action. They are: (1) A research capacity which would be charged with the production of knowledge and applied experimentation. The focused research mission would be the exploration and understanding of the developmental processes underlying individual competency. Applied experimentation would be concerned with altering these processes, where desirable, through educational intervention. (2) A development capacity which would translate knowledge and results of experimentation into effective comprehensive models for controlled application. (3) A diffusion and installation capacity which would provide the capability rapidly to move developed early educational models into field practice. The major means would be through demonstration centers and advisory services. (4) A resources production capacity which would include the operational and support capabilities necessary for the previous three functions. It would include information retrieval and dissemination, media production, communications, development of support technology and a variety of storage systems.

The fifth functional capacity is the key to a focused national effort in early childhood education. It is the integrative function. All of the action elements of the Institute, whether they be university based, field based, in the private sector or centrally located, can go on in isolation as has been the case thus far. What we desperately need is the power to integrate all of these efforts on some rational and data-oriented basis. The integrative function includes the capability to analyze the needs of the field and to conceptualize these needs into alternative strategies for problem solution. Essential is the ability to integrate existing knowledge and synthesize this knowledge for potential development and application. The ability to establish institutional policy in light of determined needs, engage in systematic planning for appropriate allocation of productive resources and evaluation of effectiveness are all central to functional integration.

LEGISLATIVE ACTION

Special legislative consideration would be necessary to create a National Institute on Early Childhood Education and provide the level of funding such a comprehensive and integrative program would demand. The immediate appropriation requirement would be no less than $5 million per annum, accelerating to a $40 million appropriation per annum within 7 years. Such a bold, new thrust would provide the focused effort in the field of early childhood education essential to the national commitment. It would stand as a landmark in educational statesmanship.

CAN WE WAIT?

The detail of the issues which a comprehensive and integrated program raises and with which it must deal are the subject of continued study. Here, I have tried to highlight the persistent problems of early childhood education in an historical context. I have tried to establish the rationale and dimensions of a national focused effort. Our *raison d'etre* is to help all young children in our society to achieve competence and self assurance. The decade of the 1960's gave us a new faith in our ability to prevail. It kindled our hope for the future. The decade of the 1970's awaits. We must take the initiative.

"* * * let us begin."

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ELEMENTARY AND SECONDARY NEEDS FOR THE 1970's

Minneapolis Staff Paper under the Signature of John B. Davis, Jr., Superintendent of Schools, Minneapolis, Minn.

On October 4, 1969, the National Advisory Council on Education Professions Development under the chairmanship of Laurence D. Haskew submitted a portion of its 1969–1970 annual report to President Richard Nixon, Vice President Spiro Agnew, and Mr. John W. McCormack, Speaker of the House of Representatives. The National Advisory Council concluded with this statement:

> If the Executive Branch feels that Congress has not moved in a fashion appropriate to the time, let it take leadership. If the Congress feels that the Executive Branch has not sensed the urgent need for a bold educational policy for the nation, let it provide the leadership. But let us have leadership.

This nation is floundering due to a lack of educational statesmanship of responsible government officials at the local, State and national levels. The crisis of urban education will not go away. There simply must be imaginative, forceful leadership at the executive and legislative levels to provide the massive financial resources desperately needed if local school districts are to help ameliorate deadening environments in which too many children grow up and go to school.

The following suggestions for educational legislation and/or implementation are offered. These suggestions are raised as not being particular to Minneapolis but to city school systems throughout America. Taken separately or together, I hope that they might prove worthy of inclusion in educational programs to be supported by the Congress and the Executive Branch of government in the 1970's.

In addition there should be implementation of the family education concept, community education, to support fully young people up to the age of six through day-care and child-care centers and for senior citizens, taking educational services into apartment houses, housing projects, and the like. The two ends of our age spectrum in America are not provided with educational services in any systematic way. The importance of early childhood education has been repeatedly demonstrated by research findings. This graphically tells us what we should be doing but makes us realize what we are not doing.

Commissioner Allen's imaginative "Right to Read" policy statement was viewed with great enthusiasm by local administrators. This goal should be the top priority on the national education agenda. But at the same time the Commissioner was suggesting this policy commitment, the Executive Branch of government was threatening to keep the Federal expenditures for education below last year's funding level. The irony of the administration's position is apparent to all.

Vocational money should be given to train children between the ages of 12 and 16 at a time when most young people make a career choice or have it made for them due to circumstances. The age 16 restriction on the use of Federal vocational funds is an arbitrary and outdated figure. Recent efforts by the Department of Labor to waive this requirement of educational work-study programs are to be commended and should be expanded manyfold. Vocational information data systems such as Professor Tiedeman's Harvard University project (ISVD) must be made readily available so that students may have a variety of occupational information before them prior to the time they have to make a career choice.

Especially for urban schools there needs to be a broader base of operations for educational programs. Facilities such as camps, residential centers, farms, businesses, and fine arts locations need to be secured so that children in the central city may have a variety of healthy educational environments in which to learn. In this regard Federal aid to cities could be most timely in helping local districts replace and rehabilitate obsolete and outdated school facilities.

Little, if any, support is given to mandate Federal funds for the education of urban Indian Americans. Interpretations of various Federal officials have restricted funds for "reservation" Indians only. Specifically in the city of Minneapolis, there are more American Indians than there are on reservations in the rest of the State of Minnesota. Indian children drop out of school at a rate exceeding 60 percent. Due to the interpretation of Federal policies Minneapolis Public Schools are ineligible to obtain badly needed Federal assistance in an effort to upgrade the quality of education for Indian Americans.

Immediate Federal funds should be made available to local school districts so that all children who come to school hungry can receive breakfast and hot lunches. Federal funds should allow for equipment, salaries for lunchroom personnel, and the renovation of existing building spaces.

Categorical aid should be provided in the field of educational technology. The Office of Education should financially support local efforts to innovate costly (and to a local system, prohibitive) hardware such as computer-assisted instruction, information retrieval systems, data banks and system-wide modular scheduling. Widespread use of educationally sound technology in the 1970's is beyond the means of urban school districts on any significant scale.

Despite the newly enacted Education Professions Development Act, the authorization and appropriation for it will not provide adequate funds for preservice training of city teachers. This is tragic. The lack of Federal funds leaves only the teacher training institutions of higher learning to sustain programs. The New Careers program under the

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Teacher Corps is a most innovative program. Yet, aspiring persons are discouraged from continuing their educational advancement beyond the A.A. level. This prohibits them from continuing another 2 years to obtain a B.A. degree and—most importantly—to enable them to become certificated teachers on a teachers' salary schedule. Federal funds should be provided for New Careers to continue their upward climb from the A.A. to the B.A. degree.

Aid should be provided directly to school districts, not necessarily to only local units of government, to launch preventative and rehabilitation programs for juvenile delinquency.

In a sense what is called for is a reordering of national priorities to sustain and develop future leaders of this nation, the students currently in American public schools. To do this there must be more involvement of students, parents, and community persons in the educational process. Educational program delivery systems must be improved. Massive efforts in staff development and inservice training must be made available. Faculties must be encouraged to innovate and revise curriculum offerings. Education in the 1970's will not be far different from what it is now unless there are systematic and sustained State and Federal resources to help overtaxed local districts. The time for national commitment is here.

Problems will not go away; they will only worsen. It is my hope that Congress and the Executive Branch of government will respond with the type of leadership so desperately needed and provide the massive financial resources to carry out our professed intention to provide equality of educational opportunity for all citizens irrespective of their local circumstances.

THE COMING OF PRECISION TO EDUCATION

Alexander M. Mood, Director, Public Policy Research Organization, University of California, Irvine, Calif.

My own nomination for the most significant change that the 1970's might bring to education is precision. Precision in the specification of goals. Precision in the formulation of objectives and standards. Precision in the measurement of the educational state of a student. Precision in the diagnosis of a student's needs. Precision in the prescription of educational experiences which will meet those needs.

Inputs.—The idea of viewing the educational system as a controlled production process for creating educated persons has been slowly gathering momentum for at least ten years (Reference 1) and is now moving firmly toward verifiable analysis of the relations between the various inputs to the process and the outputs of the process. By the end of the next decade there is a very real prospect that educators will know a great deal about how to modify the inputs in order to achieve desired changes in the outputs. There are a number of entirely satisfactory ways to define inputs; so that we may have something specific in mind for purposes of this exposition I shall simply use a set that I have already given considerable thought to (Reference 2). The gross inputs are:

1. The student's own abilities and attitudes
2. The support of his education by his family

3. The endorsement of education by his peers
4. Community support of education
5. Characteristics of the educational system itself
6. Society's posture with respect to education

These very broad inputs, to be of much use, must be broken down into their constituent components; for example, the second one might be defined as consisting of the following four major components:

Provision of a physically and psychologically comfortable home
Pressure on the student to perform well at school
Pressure on the school to educate the student well
Provision of educational know-how

This last component refers to the various advantages that children of educated parents have at school: parents' knowledge of how to lead a child through homework without actually doing it for him; awareness of the necessity to do homework competently and on time; knowledge of what curricular material must be understood to obtain satisfactory grades; monitoring of the child's progress by means of regular visits with his teachers and carrying out drill at home, if necessary, to see that he does not fall behind; understanding that C is not a wholly satisfactory grade; and so on.

In this manner all the inputs to the educational process can be broken down into more and more specific terms until finally one can devise a list of questionnaire items which will provide measures of the inputs. A great deal of work has already been done along these lines (References 3 and 4) but much remains to be done; especially standard definitions of indexes must be formulated and widely adopted by educators and public administrators. These indexes must attain the same status that economic indexes (gross national product, cost of living, value of the dollar, employment) have among economists and financial administrators.

One sometimes hears the objection that it is impossible to encompass such a complex phenomenon as family support of a child's education by a single index number. It is impossible—just as it is impossible to measure such a complex phenomenon as the cost of living by a single index number. But even though the latter is nothing but a purely arbitrary invention, it is a tremendously useful device which brings some precision to administration and policy-making at the highest levels of government, industry, and labor. We shall never obtain precision in educational administration and policy-making without similar arbitrarily defined measuring devices.

Outputs.—Turning now to the outputs of education, they are of course the knowledge, skills, and attitudes which the educational system transmits to the next generation. The measurement of some of these outputs is now in an advanced and very satisfactory state. We have expertly designed tests for measuring students' achievement in reading, mathematics, science, art, and so on. Many educators claim, however, that these achievement tests only get at perhaps half of the output of education and they are quite right. Important outputs for which we presently have no adequate tests are:

Social competence
Responsibility and citizenship
Self-confidence

Creativeness and imagination
Ethics, manners, and morals
Ambition and inspiration.

It will be an early and extremely important task of the seventies to develop objectives for these outputs, to develop educational technology for moving toward those objectives, and to develop instruments for measuring the extent to which the objectives have been achieved. It is essential that these things be done because numbers tend to mesmerize administrators. Those outputs which do have measures tend to get far more attention than equally important outputs which do not have measures. It is not likely that George Washington would have became the father of his country if he had had teachers that undermined his self-confidence by attaching undue significance to his spelling and grammatical errors.

We must conclude that, despite the advanced state of the art of the development and validation of achievement tests, we still have a long way to go before we can claim a satisfactory degree of precision in the measurement of educational outcomes.

Relation of inputs to outputs.—The connection of inputs to outputs in some kind of quantitative way is still in a rather primitive stage but at least it is now reasonably clear how such connections can be explored. A very fine pioneering study by Flanagan (Reference 5), often referred to as Project TALENT, provided the first large-scale effort to relate achievement data to characteristics of students, families, and schools. Several hundred thousand high school students took a battery of achievement tests and also completed comprehensive questionnaires which supplied the input data. Extensive analysis of these data using computers resulted in the first thoroughgoing exploration of the correlations between inputs and outputs.

Project TALENT is still under way. The original group of students is being followed up at five-year intervals with additional questionnaires to determine the extent of their post-secondary education and their eventual roles in society. Thus, during the seventies, there will become available for the first time data which will enable connections to be made between inputs and the long-range outcomes of education. These results will be invaluable and could well change our whole conception of education. We keep speaking of education as the institution which prepares the next generation but we have never looked to see how the next generation performed as a result of various educational experiences.

Of course, all research and development work in education cannot wait for final evaluation until performance of students in their adult roles in society can be examined. We shall have to rely for the most part on immediate measures that can be obtained by means of tests and interviews. But the TALENT data will allow some connections to be made between these immediate educational outcomes and the more fundamental long-range outcomes. Thus, there will soon be some sort of basis for making quantitative inferences about long-range outcomes on the evidence provided by immediate outcomes. This is another extremely important new dimension of precision that will be added to education in the seventies.

One other major study has recently made pioneering contributions to illuminating the connections between inputs and outputs. That is the U.S. Office of Education's survey of the equality of educational opportunity in the public schools which was first reported in a volume (Reference 3) often called the Coleman Report. The study was carried out under the direction of Professor James Coleman of Johns Hopkins University who had as his co-director Professor Ernest Campbell of Vanderbilt. With these two distinguished sociologists heading the project, there was developed a much broader conception of the inputs to the educational process than had ever been considered before. It is a conception that is absolutely essential to understanding some of the most fundamental aspects of the process and to understanding schools as institutional instruments of society.

Besides this landmark contribution to exploration of the relation of inputs to outputs, the survey also brought a new level of sophistication to the analysis of input-output data. It did so by developing means of calculating the unique portions of educational outcomes associated with individual inputs and of calculating those portions of educational outcomes that can be associated with two or more inputs but cannot be assigned uniquely to any single input (Reference 2). It is an extremely difficult matter in dealing with educational achievement data to assess the extent to which the outcomes may be attributed to parents, to teachers, to school libraries and laboratories, to fellow students, and so on. These new calculating procedures allow one to get some sort of quantitative grip on the problem of disentangling these various inputs to educational success and thus add significantly to the precision that will be available to us in the seventies.

The power of these new methods has been admirably used in a volume entitled *Our Nation's Schools* recently published (Reference 4) by the U.S. Office of Education. The Coleman Report dealt mainly with the civil rights issues which were the primary concern of the survey of equality of educational opportunity. This new report, prepared by a team of analysts at the U.S. Office of Education under the direction of George Mayeske, reanalyzes the survey data from the point of view of the total relationship between inputs and outputs. It is a remarkable demonstration of what can be done today to bring precision to the analysis of the terribly complex issues that educators must deal with. Many readers of that report will be persuaded by it that education is on the threshold of becoming a science quite on par with the sciences of economics, psychology, and sociology. The seventies should confirm that conjecture.

New ventures.—There are three important new programs which will certainly bring a substantial increment of precision to education. One is the National Assessment of Educational Progress which has been under development for the past several years by a group of educators headed by Ralph Tyler (Reference 6) and financed by the Carnegie Corporation and the Ford Foundation. This Assessment will periodically examine the educational attainments of a scientifically selected nationwide sample of students 9, 13, and 17 years of age and of young adults. The periodic results will allow the nation to see how education is changing over the years; the Assessment will also permit comparisons to be made between geographical regions, boys and girls, urban, rural, and suburban areas, and children from low-income families versus those from middle- and upper-income families.

The Assessment is now an official enterprise of both the U.S. and the State governments. Congress has funded it and it is being carried out by the Education Commission of the States. The first examination of two age groups (seventeen-year-olds and young adults) has been completed and the results are expected to be published around the middle of 1970.

A particularly encouraging aspect of the Assessment is its novel battery of tests which depart somewhat from the usual discipline-oriented achievement tests in an effort to get at some of the social and citizenship aspects of education. Thus, a beginning has already been made on the task of developing measures of some of the important educational outputs that have traditionally not been regarded as measurable.

The other two significant new ventures are evaluation programs being developed by the States of New York and California. New York, with its statewide regents examination for high school graduates, has long been in the forefront of all the States so far as assessment of educational outcomes is concerned. Many administrators believe that this examination is an important factor in the consistently high quality of the New York public school system. We are concerned here, though, with an evaluation program which New York began to develop about two years ago.

A number of States have been gathering state-wide achievement data for general assesment purposes. The aspect of the New York and California programs which makes them new is the determination to use the data as a formal evaluational mechanism for scientific administration. This requires, as New York is now planning, extensive additional data about students, schools, and communities so that some definite guides can be derived regarding what seems to underlie significant local differences in achievement. The object is to discover, particularly, information about factors that are under the control of State and local educational administration. Such information can be fed back through the public school system on a regular annual basis to the great benefit of all the local educational administrators who desire it but simply have not the resources to develop it themselves. Thus, there is expected to be created a formal organizational mechanism dedicated to the continuous improvement of education. Its success is a realistic expectation because the planned procedure is closely analogous to long-established management science techniques that are common in industry and have been found there to be extremely effective. A built-in process that is part of regular administrative procedure is far superior to attempts to sporadic innovational improvements (that often encounter administrative resistance). A good description of what is being contemplated in New York may be found in Reference 7.

The State of California is just beginning its exploration of means to assess the effectiveness of public education. The task is being undertaken by a joint legislative committee chaired by Victor Veysey; the committee operates under the authority of Assembly Concurrent Resolution No. 195 (dated August 18, 1969) and is charged wih determining appropriate means to develop broad educational goals and objectives as well as a comprehensive state-wide system of assesment to measure the degree to which the public school system is achieving such goals and objectives. A paper by Keith Echeverri (Reference 8) gives a good account of the present state of this program.

With these two States taking the lead, evaluation is well launched, indeed, and will surely move rapidly into the other States during the seventies.

Impact on Education.—The advent of precision will in all likelihood bring about remarkable changes in education and the period from their inception to widespread adoption will be very much shorter than education has been accustomed to. They will not seem particularly remarkable or rapid while they are taking place; rather, they will simply appear to be a natural sequence of minor improvements in educational technology or administration such as those that education has seen many times in the past.

The situation will be altogether different because there will not be extensive doubt and hemming and hawing about desirable changes. Precise measures and precise relations between measures allow research workers to calibrate their experimental subjects and conditions; their results can be adjusted to what they would have been had standard experimental conditions prevailed; they will be able to duplicate the work of other research workers. There will be developed an atmosphere of trust rather than suspicion toward the findings of research and development activities; educators will accept and act directly on those findings—just as today when the Bureau of Labor Statistics declares that the cost of living has increased 0.3 percent, everyone concerned about such matters accepts it as a fact and immediately adjusts wages and prices accordingly throughout the land.

That is only part of the effect of precision. The other part is the fact that knowledge of education will build on itself and progressively reveal the effects of pedagogical practices on learning. There will be a spectacular reduction of the hodgepodge of conflicting results from which one can choose support for whatever view he happens to fancy. The seventies should get us well started down the road to building a science of education and rescuing those of us who are trying to be educators from dependence on half truths and the traditional folklore of our trade.

Precision will tend to increase the accountability of education as an institution and of those who work in education. It will be easier to see which schools are doing a good job and to identify the practices that contribute to their success. There will be a greater tendency to set standards, to reward those who exceed standards, and to give assistance to those who fail to meet standards. For example, a reasonable standard for a school might be that every child in the school have his grade level equivalent raised by at least 0.9 during the school year; the score of a school would be the percentage of students that achieved such an increase and the percentage should be at or near 100 percent in every school. Schools that fell much below 100 percent would mark themselves as needing help. That would be the purpose of the standard—not to place blame but to indicate a need for additional resources.

Precision will also tend to increase the accountability of the public and the taxpayers. When schools fail to meet reasonable standards simply for lack of public participation and public support, that fact will be much more evident in the days of precision than it is now.

Everyone is involved in education. Even those who believe they are outside it have two important roles: they pay taxes which support education and their own lives set an example to the young people who are acquainted with them. We can expect that precision will clarify the roles of all of us, will indicate how significant our various roles really are, and will show each of us how well he is performing with respect to his own responsibility. Education is bound to benefit because most people tend to rise to their responsibilities when they see them clearly.

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DESIGNING EDUCATION FOR THE FUTURE: SOME IMPLICATIONS FOR PLANNING AND EFFECTING IMPROVEMENTS IN EDUCATION

Edgar L. Morphet, Project Director, Improving State Leadership in Education, and Former Director, Designing Education for the Future, Denver, Colo., with the assistance of David L. Jesser, Associate Project Director, and Arthur P. Ludka, Assistant Project Director, Improving State Leadership in Education

Substantial numbers of students and adults have become convinced that the kind and quality of education now provided in elementary and secondary schools as well as in institutions of higher learning in most parts of the nation do not satisfactorily meet many present needs. It obviously will not suffice to meet the emerging needs of a rapidly changing society.

In view of the fact that children who are entering school this year will be living most of their lives during the next century, it seems essential that people throughout the nation begin at once to find better ways of cooperating effectively in a major effort to identify, plan for, and implement improvements in all aspects of education—to effect changes that are designed to meet both present and emerging needs. More adequate and relevant provisions for education are essential not only to ensure the full development of the potential of every individual, but also to facilitate the continuous and orderly progress of the nation.

The need for major improvements in education is so urgent that no lay citizen or educator can afford to be complacent or indifferent.

Everyone should recognize that neither present nor emerging problems can be solved by expedient and relatively unplanned changes in a few aspects of education; merely by making a greater effort to improve traditional provisions and programs; or simply by criticizing students, educators, school boards, or legislators for present inadequacies or difficulties.

A conscientious and systematic effort needs to be made not only to identify present inadequacies, inefficiencies and unmet needs, but also to attempt to ascertain emerging needs that will result from prospective changes in society. Considerable progress in this direction has already been made in some States and in the nation, but some of the problems cannot be brought into sharp focus until goals and objectives that are appropriate for the future have been clearly recognized and accepted by a majority of the people.

However, these essential steps constitute only the initial phases of the difficult process of designing and implementing defensible and appropriate programs and provisions for all aspects of education that will facilitate the attainment of pertinent goals and objectives. In other words, systematic and realistic planning—which provides for the cooperation and participation of both lay citizens and educators—is essential in every State in the effort to ensure for all students the kind of educational opportunities that will be needed in the future.

Appropriately, not only substantial numbers of people in several States, but also organizations, government officials and members of Congress at the national level have become seriously interested in sponsoring or encouraging studies of education and systematic attempts to plan and effect improvements. While considerable progress has been made in some areas, much remains to be done. In fact, since society is changing so rapidly, it is apparent that planning actually must become a continuing process if serious lags and inadequacies are to be avoided in any aspect of education.

Fortunately, studies made during recent years and a wide variety of projects concerned with the future of society and of education have provided considerable information and valuable insights that should be of interest and benefit to all who are seriously concerned about the need for planning and effecting improvements in all aspects of education.

In this paper, the organization and procedures utilized in one of these projects will be briefly explained, and some of the important concepts and observations contributed by authorities from throughout the nation will be presented.

This three-year project entitled *Designing Education for the Future*, initiated early in 1966, was sponsored by the eight States in the Rocky Mountain and Basin area and financed primarily by funds authorized under Title V, Section 505 of the Elementary and Secondary Education Act of 1965 (P.L. 89–10). On the basis of inquiries for information about the project it seems apparent that both the procedures utilized and the concepts and information included in the publications are of considerable interest to many people in other States.

The area-wide aspects of the project were designed primarily to assist the people in the participating States in their efforts to plan and effect improvements in their provisions and programs for education.

Seven major area work conferences were held to provide an opportunity for participants to consider and react to papers prepared by leading authorities. The first conference was concerned with prospective changes in society; the last one—The Governors' Conference on Education for the Future—was devoted primarily to a consideration of needed changes in programs and procedures for preparing educators for the future. Approximately as many lay citizens as educators participated in these conferences. Following each conference, the papers were included in a report which carried a title indicating the aspects covered in the discussions.[1] The final report, entitled *Designing Education for the Future: Rationale, Procedures and Appraisal*, explains in some detail the organization and procedures, discusses the procedures and progress in each State, and includes an appraisal by four external evaluators of the area aspects and of developments in each State. Five 20-minute sound-filmstrips were also developed and have been used extensively not only in the participating States, but also in many other States.[2]

Each participating State employed a coordinator or study director, appointed a project or policy committee responsible for guiding and coordinating the studies (in most States the majority of members were lay citizens), established a series of study committees (each of which was responsible for conducting the studies and preparing reports for some designated major aspect of education), and had access to the services of an out-of-State consultant and of the project staff. Each State committee prepared a report, or a series of reports, giving proposed long-range objectives and recommendations concerning steps and procedures designed to result in implementation. Most of these reports have been published and widely disseminated. The evaluators noted that significant progress had been made in most of the project States.

Some important observations developed on the basis of studies and experiences during the project and pertinent concepts and comments by authors who prepared papers for the conferences and publications for each major aspect are given below under appropriate topic headings.

PROSPECTIVE CHANGES IN SOCIETY THAT HAVE IMPORTANT IMPLICATIONS FOR EDUCATION

There are many indications that the American society will continue to experience an increasing rate of change. Many of these changes will have important implications for and will necessitate changes in education. There is urgent need to attempt to anticipate the changes that are likely to occur in society during the next 10 to 15 years, to understand their implications for education, and to plan for adjustments that will be necessary to meet emerging needs.

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[1] These reports, all republished by Citation Press, New York, are:

Vol. 1. *Prospective Changes in Society by 1980* (1966).
Vol. 2. *Implications for Education of Prospective Changes in Society* (1967).
Vol. 3. *Planning and Effecting Needed Changes in Education* (1967).
Vol. 4. *Cooperative Planning for Education in 1980* (1968).
Vol. 5. *Emerging Designs for Education* (1968).
Vol. 6. *Planning for Effective Utilization of Technology in Education* (1968).
Vol. 7. *Preparing Educators to Meet Emerging Needs* (1969).

[2] *Design of the Project; the Education Program: Local Schools and School Systems (Close to the People); Emerging State Responsibilities; Investing in the Nation's Future.*

Some of the prospective changes may be beneficial to society from a long-range point of view; others may be harmful. Man can control the nature and direction of many of these changes. With increased knowledge and understanding, he should be in a constantly improving position to plan and prepare for those changes that are beneficial and to avoid some than could be disadvantageous or even disastrous. Thus, today's greatest hope and most urgent need is for a constantly improving and more realistic program of education for every member of society.

Most people and organizations in practically all societies have been so absorbed in, and concerned about, the obvious problems of the immediate future that the matter of considering the longer-range future usually has been left largely to philosophers and dreamers who have been interested primarily in attempting to devise "Utopias." However, especially during the past few years, many people, organizations, and government agencies have become increasingly concerned about the longer-range future. The problems posed by neglect and exploitation of human resources, by ruthless despoliation of natural resources, by contamination, and by various other threats to survival have become so obvious that they can no longer be ignored.

It is now possible to forecast, with a reasonable degree of confidence, possible alternative futures and to begin to plan to bring about some of the alternatives that would be most beneficial to mankind and to attempt to avoid others that would be harmful. Among the important attempts to forecast possible alternative futures and determine some of the probable implications are those reported in the Summer 1967 issue of *Daedalus* [3] and *The Year 2000* [4].

Thus, it is becoming increasingly possible to begin to plan realistically for significant improvements in education. There is a rapidly growing interest in doing so, and many important planning efforts are under way.

> The time is long past when people in this country can afford to plan their lives and activities against a time perspective extending only a few months or a few years ahead. (Fisher: 1, p. 7)[5]
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> * * * for the first time in history man has the conviction, realistic and strong, that he has won freedom from time, from the terror of history, the despair, the futility, the endless and pointless repetitiveness. For him there is, instead, the determinate openness of history. He can hold his future in his hands! (Meadows: 6, p. 2)
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> Growth * * * requires a willingness to accept change—change in the social order; change in business activity; change in public services; change in political values. To the extent that the public does not believe in the future and is unwilling to accept change and its costs, we face serious impediments to growth. (Wheaton: 1, p. 142)
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> * * * the greatest threats to life and health are created by man himself; they can only be combatted successfully by changes in deeply ingrained attitudes and behavior. (Hilleboe and Trussell: 1, pp. 58–59)
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> The old political boundaries—federal, state, local—no longer make sense as a means of bringing new knowledge and skills to every community. (Hilleboe and Trussell: 1, p. 71)
>
> The forecasting business gets more hazardous all the time. At no previous period in history have our lives, our institutions and our entire society been so

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[3] Daniel Bell (ed.). "Toward The Year 2000: Work in Progress," *Daedalus,* XCVI (Summer, 1967), pp. 639–994.

[4] Herman Kahn and Anthony J. Wiener. *The Year 2000: A Framework for Speculation on the Next Thirty-Three Years* (New York: MacMillan, 1967).

[5] Material in parentheses refers to the author, volume number, and page number of volumes listed in Footnote 1.

completely enveloped in change. Moreover, the rate of change shows not the least promise or prospect of slowing down in the next decade or so * * * we can be pretty sure that the environment of the 1980's will be shaped—as in the past—by man's aspirations interacting with his technology. (Shelter: 1, p. 261)

Projections to 1980 for all metropolitan areas of the United States, based upon a continuation of past trends, show an increase of about 45 million in the metropolitan population between 1965 and 1980 * * * Such an increase would represent a number equal to about 95 percent of the projected increase of 47.3 million in total population, and would result in more than 70 percent of the population being in metropolitan areas in 1980. (Hauser and Taitel: 1, p. 37)

It is estimated that [by 1980 the total amount of] non-redundant information [will nearly double, and] will amount to 2 x 10^{15} [or two quadrillion] bits * * * There appears the possibility that a reasonable number of direct access computers will suffice to store and process in "real-time" all the significant information now in the world's libraries * * * The advent of large information files in local, state, and national government agencies brings with it the problem of controlling the use of these files * * * A major problem for our society is to use such files for beneficial purposes to the fullest extent, but to preserve equally completely the civil rights of the individual citizen. (Knox: 1, pp. 221 and 230)

However it is employed, the communications capability of 1980 can change the course of the world. I hope that mankind will find a way to use it widely so that the changed world will be a better world with better understanding among all peoples. (Smith: 1, p. 179)

* * * the undermining of authority * * * lays new responsibilities on the moral imagination. It requires the internalization of ethical sensitivity and values, without which ethics degenerates into rigid obedience to increasingly irrelevant authority or into capricious choices that can be disastrous in so complex a society as ours * * * an ethic for our time requires a scientific awareness of empirical evidence and an equally scientific readiness to project new possibilities and courses of action. Yet, since ethical decisions involve a valuational component that cannot be reduced to fit any of the standard models of scientific method, they require also the imagination of the artist and the prophet. (Shinn: 1, p. 259)

It must never be forgotten that the ultimate thing which any society is producing is *people*. All other things are intermediate organizations. No matter how rich we are or how powerful we are, if we do not produce people who can at least begin to expand into the enormous potential of man, the society must be adjudged a failure. (Boulding: 1, p. 213)

PLANNING AND EFFECTING IMPROVEMENTS IN EDUCATION

Each of the 50 States is primarily responsible for providing for the education of the people who live within its borders. However, these provisions must be consistent with principles and concepts incorporated in the U.S. Constitution and amendments thereto, and with decisions rendered by the Supreme Court of the United States. The Federal government, therefore, has a deep and continuing interest in the provisions for the education of the citizens of the nation.

In this country there has been a strong tradition favoring—and a continuing concern about—local control of education. In fact, most States have delegated much of the responsibility for education to local school systems, many of which, under modern conditions, are too small to operate effectively while others have grown so large that they tend to be unwieldy. For these and other reasons, local control of and responsibility for education have become more of a myth than a reality in many areas.

It seems evident that many of the needed improvements in education can be made and that local responsibility can become meaningful only when:

—Realistic State-wide plans for the improvement of education are developed and implemented in every State;

—These plans provide not only for programs that meet modern needs for all kinds and levels of students, but also for reasonable equity for taxpayers in all parts of the State; and

—The resources of the nation are increasingly utilized to assure that the educational needs can be met in every State.

Thus, the basic responsibility for leadership and guidance in planning improvements in education rests with the States. Some State education agencies are providing effective leadership in planning and have made considerable progress in effecting improvements. Unfortunately, several, for one reason or another, have offered little leadership and, consequently, the educational provisions in those States—except in a few progressive communities—have not yet been realistically adapted to meet emerging needs. Since the population is becoming increasingly mobile, any inadequacies in one State tend to handicap other States and the nation.

We know that *many changes will occur with or without planning*—such as population increases, continued depletion of certain natural resources, greater urbanization, etc. However, we also know that by planning we *can* keep the population from exceeding the food supply, prevent the wastage of vital resources and at least provide better living conditions for those who move to urban areas. In other words, by anticipating probable developments we can prepare to avoid or mitigate some that might be harmful to humanity.

Through planning *we can project alternative goals and courses of action* that would be appropriate to the attainment of those goals. By obtaining and analyzing pertinent information we will be in a more favorable position to use sound judgment in selecting goals and to bring to bear cost benefit information in choosing wisely among alternative courses of action to assure that the goals are attained at a reasonable cost. *Through appropriate planning procedures we can identify maladjustments and deficiencies that are causing or likely to cause difficulties* and decide in advance what adjustments are needed, instead of making an adjustment (e.g., passing a new law) and waiting to see how it works out.

We now have available many of the tools and skills needed to plan effectively and also to recognize and avoid some of the previously unrecognized pitfalls in planning.

Some people may be concerned that planning for improvements in education may result in a planned society, or in an educational program blueprinted by planning experts who rely on automated machines that provide "the answers." However, there is a vast difference between a *planned society* and a *planning society.*

In the planning process there are appropriate—and inappropriate—roles and procedures for various kinds of experts and specialists, for educators and for lay citizens, and for the use of computers and other machines and their products. The planning experts and other appropriate specialists—utilizing any tools or machines they find helpful—may assemble and analyze data, make projections, identify feasible alternative goals and procedures and ascertain *the implications of each alternative.* However, they should not attempt to determine either the choices to be made or the basic actions to be taken. *These decisions must be made by the people or their representatives* who are responsible for determining the basic policies for education.

Planning for the future involves both the *identification and acceptance of appropriate long-range purposes and goals* and *the development of suitable steps and procedures for attaining those goals.* Seldom can all aspects of a comprehensive plan for education—or for any aspect of society—be implemented at one time. Thus, *priorities* need to be established. Often some changes need to be made before others become feasible, or some are considered more urgent than others. By planning for and taking certain feasible steps, progress can be made and the gains recognized, thus opening the way for further steps until the original goals have been achieved. In the meantime, new needs and goals, often resulting from changes in society, will have been recognized and the process of planning will need to be continued indefinitely into the future.

Since many changes in society have important implications for education, it should be apparent that numerous changes [in education] will need to be made during the coming years. Moreover, the fact that the education presently provided does not meet many current needs is being recognized by increasing numbers. If we do not plan effectively for change—plan to meet emerging needs as well as to eliminate present deficiencies—the progress of the nation is almost certain to be handicapped and unresolved problems of society will multiply and become increasingly grave. But planning is not enough; the plans must be *implemented*—the desired changes must be made. We must pursue social change—actively seek defensible changes in education.

Any good plan includes provisions for evaluation and for revision when the evidence indicates that some change is needed. The planning process must be a *continuous process* and any plan that is approved should contain provisions for further study and modification as conditions change or new evidence becomes available.

> We are becoming more keenly aware of the educative effects of the economic and social conditions of life and the influence of social agencies and institutions upon the development of youth. The time is upon us when we must contrive the social mechanisms by which all of these influences can be coordinated and directed to a common end. There must be a unified approach to the education of youth. (Smith: 2, p. 76)

> An important general strategy is to approach change in such a way that there results a climate hospitable to continuous adaptation and change. Many educational approaches to change in the past have been directed at a single change. This tends to result in thinking of change as *product introduction* rather than as a *process of adaptation.* (Howsam: 3, p. 72)

THE EDUCATIONAL PROGRAM

The chief purpose of all educational planning and of all State and local education agencies should be to ensure adequate and relevant learning opportunities and progress for all persons who can benefit from education. Provisions for local school systems and schools, for facilities, for various kinds of services, and for financial support should contribute maximally to that end. Therefore, any provisions should be judged by the extent to which they do so. This should be considered a basic criterion to be utilized in evaluating all existing provisions and practices, and in planning and recommending changes.

Planning in education, therefore, should begin with a careful and realistic consideration of present and emerging learning environments, needs, and possibilities. Traditional programs and practices are strongly entrenched and have many ardent defenders. Teachers at all levels have become accustomed to "teaching," which all too often means "lecturing" or telling students what to do and evaluating their progress in terms of the bits and pieces of information they have memorized as determined by their ability to respond to test or examination questions that require "answers" consistent with this approach.

Fortunately, some school systems have abandoned, or are in the process of abandoning, such traditions. Their major objective apparently is to develop appropriate provisions for facilitating meaningful learning for all students, and to reorient programs and procedures in a serious and coordinated effort to achieve this objective. This should become a basic goal for all planning efforts to improve education throughout the nation.

The mounting evidence indicates strongly that *even present day needs cannot be met* in most areas of the nation where the educational program or organization has one or more of the following characteristics: a curriculum including an instructional and appraisal plan based largely on the ability of students to memorize and feed back at the proper time numerous bits of often unrelated information; teaching (often lecturing to) large groups with inadequate attention to individual learning problems and progress; an often highly compartmentalized subject matter approach to teaching and learning; a tendency to discourage or "push out" students who do not do well with highly intellectualized tasks, and then to ignore them after they have dropped out—in other words, to orient the program largely to the presumed needs of students with college potential.

> A first step in planning [education] for the future is to decide upon our aims—to identify the qualities which future citizens should possess. We must produce a statement of goals, or at least point the way for others to do so. . . . Two facts are uncomfortably apparent: (1) most statements are not meaningful to most persons; and (2) the goals contained in them are often not implemented. Perhaps the second of these phenomena is the result of the first. (Bebell: 5, p. 5)
>
> Our children and youth are being educated more in accordance with yesterday's world than in preparation for tomorrow's living. . . . Too few educators have asked "What will this person [today's student] be doing in 1985?" "What will our society be like then?" (Goldman: 7, p. 152)
>
> The total curricular experiences should be interrelated—and designed around themes such as man's quest for values. New curricular materials should emphasize inquiry, discovery and process. A major focus must be that of development of critical thinking and self-direction. . . Students must learn to make decisions; they must learn to accept freedom and responsibility. (Glines: 3, p. 165)
>
> The available evidence from many sources indicates that studying about, knowing about, and/or remembering does not always result in action. . . . The scope of teaching-learning situations in public education must move toward the inclusion of innumerable experiences with meaning, significance, and action. (Parker and McGuire: 5, p. 67)
>
> Proposed curricular or educational changes must be analyzed primarily in terms of their implications for the future. . . . The essence of educational change is planning—not taking chances on spontaneous mutations. Let us build on solid foundations, thereby avoiding the errors so observable in our educational heritage. (Orlich: 3, p. 88)
>
> There are two major requirements [of the educational program] with which techology can help. The basic requirement is the ability to provide individuals (or groups) with appropriate learning experiences reasonably promptly upon demand. . . . The size of the tolerable delay is a system design variable, of course, but the principle is constant: Provide access to educational experiences when they are wanted by individuals, not just when it is convenient for the administrative structure to provide them. . . .

> The second requirement is a means of accumulating a record of the learning accomplishments of individuals, no matter where, when, or how gained. . . . Only with such arrangements can lifelong learning be formally available for everyone. (Adelson: 6, p. 247)

PREPARATION AND ROLES OF EDUCATORS

The learning challenges and opportunities that are provided—not only in schools and colleges but also in the homes and through other agencies and media—should continue to be of paramount concern to everyone. For many reasons, the problems in learning and of facilitation of learning (commonly referred to as "teaching") become more complex with each new generation. Continuing changes in society and new insights into learning problems and possibilities soon make obsolete many commonly accepted practices and procedures. Relevant and meaningful educational programs can be ensured in educational organizations and institutions only when those who are professionally involved in the educational enterprise understand the need for, and are willing to assist in implementing, essential improvements.

We are now in the midst of a technological revolution that many claim is potentially as significant for education and learning as the invention of printing. Will we take advantage of this new opportunity to adjust education to current needs and modern possibilities, or will many again find excuses for continuing processes and practices that are indefensible in light of the evidence now available?

For educators or others to attempt to utilize any of the newer technologies or insights without understanding the limitations as well as the potential could be disastrous. Many authorities have noted that appropriate use of technology can help not only to improve education but also to make it more humane. In considering this matter, we should not overlook the *inhumanities* all too often encountered even today in many schools and colleges. Moreover, everyone needs to recognize that colleges and universities have the basic responsibility for preparing educators who are qualified to lead—rather than lag—in providing meaningful learning opportunities for students who will help to shape the society in which they will live as adults.

> Education can fulfill its great responsibilities to our developing society only if it is carefully designed to prepare students in the schools today for the world of tomorrow. And in all planning for the future of education, the preparation of educators must be given primary emphasis, since our hopes for progress ultimately depend on the competence and dedication of those who serve education—the teachers in our schools and colleges, leaders in administrative positions, a growing number of specialists, and an important group of nonprofessional helpers who make the professionals more effective. (Howe: 7, p. xi)

> The recognition that it may be possible to "prepare educators" is honored by the creation of colleges of "Education." but ignored in preparing educators to teach at the college level. . . . as institutions, universities are no longer able to ignore the preparation of faculty members as teachers in addition to their preparation as scholars. . . . The preparation of educators needs to be expanded to include the provision of a teaching component in the preparation programs of those who aspire to become university educators. . . . The crucial process in any school, college or university is the learning rather than the teaching process. (Fawcett and Corbally: 7, pp. 33, 35 and 37)

> * * * the accelerating rate of change in the technology of education presents new pressures and needs. . . . The pertinent technologies . . . can be "taught" to today's undergraduates only if they are utilized effectively in undergraduate teacher education. . . . Effective education of prospective teachers must be a living model of effective ways to make use of new technology in the classroom or

> this new technology won't even get to the classroom on any large scale. (Vance: 7, p. 82)
>
> It seems apparent that nothing short of a complete overhaul will bring to our teacher education programs, both preservice and inservice, the vitality they must have if teachers are to effect the rapid educational evolution we want * * * The much-heralded pedagogical revolution is still largely in the cumulonimbus clouds of educational reform that roll back and forth across this vast and varied land * * * teaching is still largely a "telling" procedure, with exchanges being primarily between teacher and child rather than among groups of children. The processes of "discovery" and "inquiry"—so lauded by curriculum reformers—seen not to be well understood and tend to be used mechanically, if at all. The textbook dominates instruction. Films, when used, more often than not are supplementary and are not woven into the fabric of the program. It is difficult to detect in the classroom common use of such psychological concepts as goal setting, motivation, positive reinforcement, evaluative checking, and so on. The class usually is instructed as a whole, except for the common practice of achievement grouping for reading the primary grades and of some grouping in mathematics. (Goodlad: 2, pp. 50–51)
>
> It is not surprising that teachers place emphasis upon "covering the ground". Most of their life they have been evaluated on this basis. As students, they were examined on how well they had learned and remembered the subjects they had been taught. As teachers they are judged (at least at the secondary level) by both students and supervisors in terms of their command of the subject they teach * * *
>
> Typically, a teacher prepares for a class by reviewing the topics to be taught and making sure he knows the answers to problems or questions which may arise. . . . As a consequence, he presents the students with what might be called the embalmed results of prior thinking rather than the living body of new thought. When a question arises to which the teacher does not know the answer, his most common reaction is to defer it. It is standard among educators to laugh at the often-heard response: "That's a good question. Why don't you look the answer up and let us all know tomorrow." * * *
>
> The difficulty involved in shifting the sense of security of teachers from what they *know* to what they can *do* is deep-seated. Perhaps more progress has been made in doing this in elementary schools than in high schools. Techniques like individualized instruction, grouping within classrooms, student-teacher planning, and student-led and -initiated discussions are difficult for those who have not been trained in them and who do not receive insightful and understanding help. (Bebell: 5, p. 14)
>
> One of the healthiest developments in the teaching field in recent years has been the increasing differentiation and specialization of teaching roles, where teaching is broadly defined. This is one of the stages in the evolution of true professionalism in teaching, just as it has been in other professional fields. The concept, if not the practice, of the self-contained classroom in the elementary school is obsolete. The degree of specialization in teaching roles at the secondary school level, based mainly on subject matter categories, is inadequate. What is needed is a greater functional differentiation of the teaching role at all levels and the further development of specialists in these differentiated roles. (Lonsdale: 7, p. 25)
>
> Whatever else happens to the child before it comes to the schoolhouse door, what the teachers do *to* and *for* the child will largely determine the shape of the nation and the quality of the people's lives. (Jennings: 7, p. 138)

STATE-LOCAL AND FEDERAL RELATIONS AND RESPONSIBILITIES FOR EDUCATION

Although, as previously noted, each State legally has the primary responsibility for the education of its residents, few States appear to have prepared seriously and systematically to assume this important role with its continuously changing implications. In most States, many responsibilities for education have been delegated to local school districts. However, substantial numbers of districts have not been in a position to assume some of these . Furthermore, in some States, constitutional or other legal restrictions have seriously limited the opportunity for districts to make meaningful decisions concerning various aspects of the education program. Additionally, the Federal government, from time to time, has complicated and confused the situation by providing funds for designated purposes and by negotiating directly with local school systems that seek to qualify. As justification for such action, the statement has frequently been made that the States are not prepared to deal realistically with some of the emerging needs. A basic issue that needs much further consideration seems to be: What responsibilities for education should be assumed by each State in the light of emerging needs and what are the most appropriate relations between the Federal government, the States and local school districts on the one hand and between the States, local school districts, and the Federal government, on the other?

It should be apparent both to educators and to lay citizens that the people in each State need to make a more serious effort than ever before to identify the educational responsibilities that should be assumed by the State and to develop an organization and procedures designed to ensure that these are implemented in such a way that they will result in optimum educational opportunities and programs for everyone.

STATE ORGANIZATION, RESPONSIBILITIES, AND RELATIONSHIPS

All States have established what is commonly referred to as a State education agency. In most States this agency is composed of a State board of education, a chief State school officer, and a professional staff. Traditionally this agency has been concerned primarily with establishing and enforcing minimum standards and with services to local school systems. Until recently there has been little attention to long-range planning or to the need for effecting significant improvements in the provisions for education.[6]

Fortunately this situation—due partly to the provision of Federal funds for improved staffing and services and partly to pressures for more effective programs of education—has been changing rapidly in many States. But there are many unresolved problems in every State. In some, the old traditions relating to the organization and role of the agency are so strongly entrenched that even the legislature has resisted any major change.

> The state-level structure for executing public education apparently faces decisive re-tooling. The choice is still open as to whether it will, or can, be effectively and meaningfully restructured—or will face a declining significance (Haskew: 2, p. 27)
>
> Political action must be based upon commitment to attainable legislative goals . . . Every great movement in education has been based upon some purposeful goal that captivated the minds of those who led the movement . . . State departments of education need to furnish aggressive leadership and coordinative services in the planning of long-range goals for education in the states. Much energy should be expended in developing general agreement on a defensible conceptual design and, finally, on personal and group commitment to realistic legislative and local school district goals. (Kimbrough: 3, pp. 125-26)
>
> The states cannot blame their educational shortcomings on the failure of local school districts, because the states created those districts and are responsible for them . . . The states have plenary powers with respect to education so long as provisions of the United States Constitution are not violated. However, . . .

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[6] A new project, *Improving State Leadership in Education*, administered by the Colorado State Department of Education, is devoting major attention to the emerging roles and relationships of the State education agency in planning and providing for quality education throughout the State.

> experience has shown that the Federal government can and will intervene in providing public education when the states fail to discharge their responsibilities. (Johns: 2, p. 265)
>
> If educational planning is to flourish at the state level and if it is to serve educational institutions effectively, organizations will need to be adapted or created which will provide a setting to which competent planners will be attracted and in which they can function effectively. Since the nature of any organization should be shaped by the functions it is to perform, the first step in arriving at an organizational strategy to facilitate planning is to make explicit the state planning functions which will best serve education. (Culbertson: 3, p. 280)
>
> That the total educational system is interrelated in spite of independent governing structures among its parts cannot be disputed. Undoubtedly, greater coordination should exist and must certainly be achieved in the future. (Goldhammer: 5, p. 86)
>
> The direction of the future is clear: regional and national cooperation between the states; the gradual relinquishment of "territorial imperatives"; the still guarded but growing partnership with the Federal government; a rising level of competence in all state education departments; and a trend toward greater uniformity. (Nyquist: 5, p. 190)
>
> Within [bureaucracies] there will be greater emphasis on the use of trained professionals. . . . Increase in expertise will inevitably strengthen the administrative branches vis-a-vis the legislature unless the legislatures follow through with programs presently under discussion to acquire experts of their own. At the same time, increased expertise at the state and local levels will not only improve the quality of their governmental services but will put the states and localities in a better position to negotiate with their Federal counterparts. Not only will these professionals share the same professional values and long-range aspirations, with a consequent easing of communications, but they will also enable their governments to negotiate from positions of greater strength. (Elazar: 1, p. 112)

LOCAL ORGANIZATION AND RESPONSIBILITIES

Every State except Hawaii has established local school districts (systems) that are primarily responsible for organizing, operating, and helping to support local schools and educational programs. The people in most States believe so strongly in the importance of local responsibility for education that the local district system is not likely to be abolished, but it will need to undergo some significant changes if it is to be effective under modern conditions. The evidence available indicates that (1) under modern conditions, there can be no such thing as complete local control of education in any area; (2) in a large proportion of the school districts in many States there has been little bonafide responsibility for education; (3) the smaller districts cannot provide an adequate and equitable program at a reasonable cost; and (4) most of the larger districts have become so bureaucratic, cumbersome, and unwieldy that many people are convinced they cannot meet emerging needs.

Several States have created intermediate units or districts designed to provide various kinds of special services, but some of these have been relatively weak and ineffective. Some authorities have proposed the establishement of a new kind of large-area unit for basic taxing purposes (with most of the funds to be distributed to the operating districts included in the area), coordination of planning, and the provision of certain special services. Thus, the operating units within the area can be relatively small and decentralized, and in a position to center major attention on the development of an adequate and effective educational program. For various reasons, proposals along this line are likely to receive increasing attention during the next few years.

> All * * * systems have a boundary * * * Many leaders and citizens within the boundary interact with each other more frequently and easier than they interact with leaders and citizens outside the boundary. All * * * systems seek to survive in their environment. Educators who have sought to consolidate schools * * * should be well aware of this system tendency. (Kimbrough: 3, p. 120)
>
> * * * the social system [survives in its environment] through what behavioral scientists call "feedback." * * * If a system fails to learn from its environment, it will eventually fail to survive or forces in the environment will make changes in the system. (Johns: 2, p. 249)
>
> The local district and the individual school are the action units of education. It is here that the institutional systems exist. No amount of shifting of control can alter the fact that motivation and morale are generated primarily in the action [units] rather than in the control units. (Howsam: 4, p. 93)
>
> The further the operating unit is removed from the decision-making process, the more rigid the authoritative structure of the school, [and] the less [the] involvement of teachers and principals in educational planning, the greater the distance of the parents and citizens tends to be from the control mechanisms of the school district. (Goldhammer: 5, p. 89)
>
> The local school district structure is in need of prompt and sharp revision—in function, in scope of programmatic control, in authority relations to other units of execution, in methods of operation and governance, in geographic definition, and in the roles expected of it in financing schools and in purchasing school services. (Haskew: 2, p. 25)
>
> There is little doubt that changes in the environment of the schools will be reflected in the leadership and control of American education. The citizen of the future will have more to say about schools, and so will teachers and students. Demands for participation will lead to alterations in the structures through which schools have been governed and administered. The traditional leader roles of school board members and administrators will be modified but they will survive. The challenges are substantial but so is the nation's capacity to respond. (Cunningham: 2, p. 195)

THE ECONOMICS AND FINANCING OF EDUCATION

Many economists and other leaders have concluded that the kind and quality of education provided for the citizens of a nation will have a direct bearing on the development and progress of that nation. In the underdeveloped nations little progress can be expected until more adequate education is provided. Moreover, the development of adequate programs of education for all will ultimately provide a sound basis for better governments and more vigorous economic growth as well as for helping to relieve international tensions and to reduce crises and conflicts.

During recent years a number of economists have attempted to determine the effects of the investment in education on growth in the national economy. All of them have concluded that the investment in education has a significant effect on economic growth, and many have noted that there are also many social benefits of education that cannot readily be quantified. Schultz, for example, estimated that 36 percent of the increase in the gross national product that could not be accounted for by the weighted input of capital and labor could be attributed to the investment in education if only a 9 percent return on the investment is assumed.[7] If an 11 percent return is assumed, which seems reasonable, the investment in education would account for 44 percent of the increase.

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[7] R. L. Johns, "The Economics and Financing of Education," in Edgar L. Morphet and David L. Jesser, eds., *Emergency Designs for Education* (Denver, Colorado: Designing Education for the Future, 1968), pp. 205–206.

At the time this nation was established, about 90 percent of the income of the people was derived from property. Currently less than 10 percent comes from that source. Yet most States still rely on property taxes for a substantial portion of the revenues for support of their elementary and secondary schools. While all States provide some support from non-property tax revenues, the provisions in most instances constitute a patchwork of flat grants and categorical aids that result in many inequities. Often the less wealthy school districts, even with high tax levies, cannot provide a defensible program. Moreover, the Federal grants for special (categorical) purposes, that have increased substantially during the past few years, often have tended to perpetuate the inequities.

Fortunately, several States have set about during recent years to develop more equitable provisions for financing schools and a few have made significant progress. On the basis of insights and information now available it is possible for every State to develop reasonably defensible provisions for school support, but at least some of the less wealthy States will not be able to insure adequate support unless substantial funds are made available from Federal sources. The development and effective implementation of such provisions will require creative leadership, extensive study of all aspects of the present situation and emerging needs, systematic planning, and wide-spread agreement on the objectives and the design for effecting improvements.

> A great many studies have indicated that in terms of sheer rate of return on investment, investment in education probably brings a higher rate of return than that of any competitive industry, and when we add the intangible benefits, which are considerable, the argument that we are underinvesting in education as a whole and grossly underinvesting in certain aspects of the system becomes almost irresistible. (Boulding: 1, p. 212)

> Another method of studying the social benefits of education is to consider *the cost of not educating people.* The crime rates and the rates of dependency on public welfare or private charity are many times greater among those without sufficient education to enable them to succeed in present day society than among those who have an adequate education. The direct cost to the taxpayer of keeping a man in prison may range from $3,000 to $4,000 per year in terms of 1967 prices. This does not include the cost to other individuals of the crime committed or the social cost which may be incurred by the prisoner's family being forced on relief. How much of the more than one hundred million dollar property loss in the Detroit riots of 1967 was due to failure to provide sufficient education for the migrants who had settled in Detroit's ghettos? It is difficult to make a valid estimate but, as one views the future, it is reasonable to predict that the economic cost of failing to educate the population will be far greater than would be the cost of the additional financial inputs necessary to provide the quality and the quantity of education necessary for all of the people. (Johns: 5, p. 207)

> It is * * * fairly clear that future increases in expenditures for education will have to come from some level above that of the local community. Most localities are already spending some sixty percent of their total tax dollar for educational purposes, starving many other necessary local services in the process. Thus, they have every reason to seek outside aid for increased educational expenditures and even to reduce the share of their budgets devoted to education at the present time. This aid could come from either the States or the Federal government. (Elazar: 1, p. 117)

> If due consideration is given to the economics of education, the equity of taxation, the sources of income of the people and the equalization of educational opportunity, the respective shares in 1980 will probably approach 25 percent Federal, 50 percent state and 25 percent local. (Johns: 5, pp. 213–14)

> The tax structures of most states have been devised to make it difficult for local governing bodies to finance themselves. . . . There is scarcely a tax program in the country that makes it feasible for a school district to obtain the financial means to provide educational programs consistent with the needs of the

community—regardless of how small or large—without dissipating an enormous amount of its energy upon resources procurement. (Goldhammer: 5, p. 95)

Obtaining an accurate measure of the equalized or market value of taxable property in each district has been a problem in many states * * * This problem can be rectified only by the establishment of a state agency with the authority to equalize assessments throughout the state or at least with the authority to compute the equalized value of property in each school district. (Johns: 5, p. 218)

The projections for the education goal suggest changes in the nation's priorities favoring a greater emphasis on objectives in education. * * * By 1975 the spending anticipated for the education goal would move education to sixth place on the list * * * many economists and public figures in both parties * * * favor the sharing of federal revenues with the states for programs to be determined by the states. * * * [One] solution to [the problem of] providing additional resources to education would be to undertake a modest shift in emphasis in our priorities from private consumption to public services. (Lecht: 3, pp. 5, 6, 13 and 14)

Efficient use of resources is not * * * the sole goal of the economy. Objectives of economic policy also include full employment, relative price stability, an equitable distribution of income, and an adequate rate of economic growth. A satisfactory conception of educational finance must encompass virtually all of these concerns. Educational finance, therefore, cannot be limited to considerations of how to raise revenues for public schools. Determination of the proper level of finance for education depends on the valuation placed by society on specific educational programs. Furthermore, benefits derived from the devotion of resources to education must be compared with benefits from alternative public and private use. Finally, educational finance cannot ignore the redistribution of income or the growth in labor productivity that occurs when tax proceeds are used to finance free public education, nor the differential tax burdens that result from alternative tax structures and inter-governmental fiscal arrangements. In addition, as part of its concern for economic efficiency, educational finance has to consider the effectiveness with which schools transform scarce resources into educational output. (Miner: 2, p. 300)

SOME NOTIONS ABOUT EDUCATIONAL NEEDS FOR THE SEVENTIES AND A LOOK AT THE CONCEPT OF QUALITY ASSURANCE

James L. Olivero, Director, Southwestern Cooperative Educational Laboratory, Albuquerque, N. Mex.

Forward thinking educators at all levels of the profession have for some time, while busily engaged in the holding actions of their daily endeavors, been devoting a considerable portion of their talents and resources toward planning for the educational needs and priorities of the next decade. With acknowledgment to these fellow educators for their singleness of purpose, this paper is an attempt at reflecting some of their thinking, and no particular originality is therefore intended or claimed.

This statement has two purposes as suggested in its title: to pinpoint some of the current notions about what American education on the elementary and secondary level must have in the 10 years immediately ahead; and to advance and attempt to explain the concept of quality assurance which is just now coming into vogue in some isolated educational innovative endeavors. Quality assurance, or quality control as you will, is as yet a largely unexplored and unarticulated potential power for good in education, and which, like so many other marvels of tomorrow's world made today's realities, has been borrowed from contemporary society's space-age technology and know-how.

However, let us begin with an examination of some of the needs confronting us. Listed below, in rather arbitrary categories, are some of these unfilled needs as we see them.

Students

1. Education must develop programs and support for reaching children at an even earlier age (four- and even three-year-olds) than we are now accepting them.
2. We must anticipate and prepare for increased student populations because we will be getting the children earlier and keeping them longer.
3. We must accept and plan for the fact that the "formal" entry level into education will be based upon maturity and need rather than upon merely the accidental fact of the child's date of birth.
4. We must find ways not only to teach the four R's (reading, writing, arithmetic and responsibility), but we should also find ways in our schools to organize programs where children can learn to provide "human service" to others less fortunate.

Curriculum

1. We must abandon the time-honored but hoary precept that students have to receive their education in measured doses according to rigid packaging and scheduling and, instead, adopt new methods that will permit them to work and learn at their own pace.
2. We must anticipate, accept, and plan for the inexorable advance of mechanization in the schools, whereby teachers will be redeployed by technology in those situations where the "machine" can do the job either more effectively or more efficiently.
3. We must recognize that, in some instances, individually-prescribed courses of instruction will replace teachers and textbooks.
4. We must make the schools more "liveable" and devote at least as much time and energy toward introducing human relations into education as we have in tinkering with the content.
5. We must develop many new and much more effective instruments to diagnose both the strengths and weaknesses of youngsters to facilitate individualism of instruction.
6. We must reduce the time lag between development of educational innovations and their introduction into the classroom.
7. We must find ways to make curricula relevant to the life experiences of the students; few Navajo children, for example, are familiar with many of the "Dick and Jane" concepts in most basal readers.
8. We must devote more attention to the so-called controversial issues, such as "Communism, birth control, sex education, drugs and narcotics," etc., if our schools are to become social change agents.

Facilities

1. Schools must more closely reflect the needs of students and the implied individualized curricula packages by moving away from the 30′ x 30′ classrooms to less conventional but more flexible structures.
2. School personnel will begin to recognize that all "education" does not take place within the confines of the "school" and reliance on other community resources, such as museums, art galleries, private manufacturing agencies, and construction groups, will be made.

Teachers

1. The profession must discover new strategems for producing teachers rather than relying upon traditional teacher training institutions and methods.

2. Teachers must reshape their thinking and gear their professional capabilities toward the differentiated staffing concept.

3. The schools and the classrooms will see the ever increasing introduction of more specialists and aides, and teachers must ready themselves to accept these additional personnel.

4. Teachers must be given a greater degree of latitude in participating in the decision-making processes which affect their careers.

5. Professional educational associations must assume more responsibility for the certification and development of teacher competency.

6. Modifications must be made in existing staffing patterns to accommodate some of the estimated one million nonteaching certificated personnel to serve at least part time in the classroom.

7. Teachers must be given more time to teach, and more time to think and plan.

8. The educational system must provide for changing the role of the beginning teacher, since he cannot be expected to perform the same duties as does his more experienced counterpart.

9. Efforts must be made to attract more males to the classrooms, particularly at the elementary level.

10. Additional avenues of advancement and reward systems must be developed which do not promote outstanding teachers away from their students.

Principals

1. Provisions must be made to make the principal's job even more specialized, and to provide him with even greater access to supportive personnel, both aides and specialists.

2. Allowances must be made for the fact that the principal's individual power will decrease as the decision-making process becomes more decentralized.

3. We must anticipate the eventuality that the job called "principal" may begin to disappear, and that new administrative staffing patterns will emerge.

School Day

1. We must plan now for the time when taxpayers demand that schools open earlier in the day and remain open later at night. Parents will continue to articulate their wishes for better utilization of scarce resources.

2. Taxpayers will not only demand more extensive and effective use of the schools on a daily basis, but will insist that the schools remain open 12 months a year. Planning must commence now for this eventuality.

Funding

1. Education must locate and explore additional sources of support from all levels of the government, as well as from the private sector.

2. Additional Federal support likely will be forthcoming for education, although legislation must be provided to give the individual States more jurisdiction for its disbursement and allocation.

3. Planning must be accomplished without delay for the day when the single salary schedule disappears in favor of a salary schedule determined by job responsibility and competency.

As stated earlier, the foregoing represents a mere outline of some of the changes that can be expected, and of the demands that will be made upon education within the very next few years. Entire papers could be written on each of the topics cited.

Suffice to say, this list of "musts" previously has been brought about by the complex changes now occurring in our society. Complex solutions will be required to resolve the complex problems that exist.

Quality Assurance—Its Role and Mission in Contemporary Education

A concept that has long been associated with other fields of endeavor, but which is just now beginning to gain some currency in education, is that of quality assurance, or quality control. If we accept the fact that quality control is one of the vital ingredients in today's space-age technology that can help assure us of putting a man on the moon, then perhaps it is conceivable that such a device has real relevance for the classroom. Admittedly, education *per se* is only just now on the threshold of exploratory research into the feasibility of introducing such a concept, but many forward-thinking innovators hold out bright hopes for its promise. Too, it is recognized that assimilation and acceptance of quality assurance in education may take a somewhat altered form as it is known in industry, but the basic premise of guaranteeing results remains basically the same.

Imagine the favorable reaction of a teacher telling a parent or a student that performance can be anticipated and assured if certain conventions are observed. Consider the consequences of a project developer promising a school board or administrator that the reliability of his program or package will be guaranteed unconditionally if only the rules governing its use will be followed. Could American education, accustomed for centuries to "hoping for the best," stand the professional shock of being forced to stand behind its products?

Quality assurance, reduced to its simplest terms in an educational context, is no more or no less than a product developer, or a curriculum designer, or a school system saying that "x" level of achievement will be attained by the student provided that prescribed protocols are rigidly adhered to, and then installing the mechanisms to insure that they are.

This notion, of course, is in direct opposition and vivid contrast to the "parachute" method in such common usage today whereby a textbook manufacturer or curriculum publisher, for example, simply sells and then drops in upon an unsuspecting school district a brand new set of materials that simply cannot miss! All too often, of course, the problem is that the materials do "miss," and that programs that might have worked instead fail miserably, that uncounted expenditures of time and money invested in research and design go for naught, that vast arrays of shiny new textbooks and other teacher aids gather dust in a musty storeroom, and that daring and visionary administrators who once had the courage to try something new lose their faith. And all for want of a nail—a set of instructions, if you will, and an on-the-scene competent and thoroughly trained individual well versed and drilled and with a confidence of know-how in how to make the program go!

What the introducer of a new program into the schools is saying, in essence, is that his product is sound and is workable, but that it is absolutely crucial that someone in the system or district be accountable for its performance. This individual is a direct link between the teacher and the students (the consumers) and the manufacturer (the publisher or regional educational laboratory, for example) which distributed the program initially. What the developer is attesting to is that the material does indeed work, but that to make it work it must be used correctly, and that to realize its fullest advantages and potentials it must be used in strict accordance with an established set of standards and criteria. Nothing less can be expected and only little deviation can be tolerated if the guarantee is going to maintain its integrity!

Another way of looking at quality assurance as it applies to education is to view it as a monitoring system, a method whereby the performance and reliability of new materials can be assessed on a continuing basis so that the consumer can be guaranteed of their success and the manufacturer can be apprised of any "bugs" that might develop so that remedies can be effected quickly.

There will be greater and greater demands for quality assurance in American education in the years ahead. School boards and taxpayers already are casting a critical eye on ever-increasing teacher militancy, and are beginning to wonder aloud what they can expect for the dollars that are being paid to teachers. Not too many years ago the question of quality of instruction was rarely raised, but the cry is now being raised with increasing rapidity. Naturally, one must realize that the teacher does not stand alone and must be dependent in large measure upon the types of tools with which he is given to work, thus assuring a continual dialogue for quality assurance from both within and without the establishment!

One reason that the question of quality assurance rarely arose in days past was that there simply were not enough teachers to go around, and many school boards were satisfied with merely putting someone in every classroom. However, the U.S. Office of Education estimates that by 1972 there will be a teacher surplus of some 125,000. When we add this anticipated surplus to the more than 300,000 teachers in this country who have valid certificates but who are not now teaching for one reason or the other, we arrive at the conclusion that certain quality assurances will be demanded in teaching performance by boards of education.

Many school systems already are firmly dedicated to the principle of having quality education, but the definitions and dimensions of "quality" have thus far been relatively evasive as far as many school personnel are concerned. One would not need to speculate very much that, without due care being exercised on the part of educators, it is possible that school board members, legislators and others, who may not have enough data upon which to make decisions about quality, will be dictating to educators what the term means. If educators abdicate their responsibility to help make decisions in these areas, there is little doubt that someone else will make the decisions for them. One does not need to look very far or very hard to find numerous examples of how this "vacuum" in the decision-making structure is filled (often to the detriment of the stated goal) in the absence of previously determined and clear-cut guidelines.

Ideally, the concept of quality assurance could be applied immediately and totally to every level of the educational enterprise. Practically speaking, such a realization is still some distance off and must be phased in gradually and over time where circumstances and conditions permit and lend themselves to such an implementation process. The realities of economics, for example, would not allow commercial publishers to participate in such a venture at the present time, even if the machinery existed and they had indicated a real willingness to commit themselves to such a philosophy.

However, the way does seem open to certain types of innovative educational institutions which do not have the same dictates placed on them in terms of economic considerations as do the strictly commercial ventures. We are speaking here, of course, of those types of activities such as Federally-sponsored regional educational laboratories, research and development centers, and universities operating under various types of grants that remove from them the necessity of showing a dollar profit.

Take, for example, the case of a regional laboratory which has developed a certain product which it knows to be feasible and thoroughly workable for introduction in the field. First, better than average teachers from the participating school districts are brought together for training sessions in the philosophy, rationale, use, and intended benefits of the new materials. Then, either simultaneously or later, another group of district personnel, identified as "Quality Assurance Specialists," are given the same training and with the same intensity. The only variables, if any, are that the Quality Assurance Specialists are even more highly trained in how to make the material work and, in addition, are provided with guidelines to enable them to effect and sustain necessary liaison and lines of communication between the teachers and the developer.

The Quality Assurance Specialist then assumes his role in the field, and fulfills the following duties on a regular and consistent schedule according to a previously prescribed and accepted set of instructions:

1. The Quality Assurance Specialist will observe every classroom in which the material is in use at least once every month for the duration of the cooperative program. His purposes during such visitations will not be to "spy" or "snoop," but rather to make certain that the teacher has no problems, or if she does, to attempt to solve them; and to insure that she is observing the protocols for use of the materials. An insistence on following the protocols, for example, might be seeing that the teacher is teaching the right lesson at the right time (as set forth in the instructor's manual), and that she is performing according to training given her in the laboratory's formal training institutes.

2. The Quality Assurance Specialist additionally is expected to conduct at least two in-service training sessions for participating teachers each month for the duration of the program. These sessions are intended to provide additional counseling, training, etc., and to impart knowledge of new developments that might relate to the program since the teachers' training and assumption of their duties.

3. The Quality Assurance Specialist serves as a liaison and direct link between the laboratory and the participating school district (and

teacher), and between the district and the laboratory to facilitate and maintain a constant two-way flow of information. Questions, suggestions, observations, and problems are relayed to the laboratory from the field, and the response—in the form of answers and feedback—is returned to the field. The Quality Assurance Specialist is the laboratory's "man on the spot," and either represents or provides a definite source of information about the program and its products.

4. The Quality Assurance Specialist also is required to submit regular and periodic reports to the laboratory, and additionally attends to various details associated with implementation of the program and oversees certain "housekeeping" chores such as distribution of materials, reports, etc.

The obvious strengths of a quality assurance system are these:

1. The Quality Assurance Specialist provides a definite and established link between the consumer (the teacher and district) and the developer or manufacturer of the materials.
2. The system provides for monitoring on a regular and constructive basis, thus insuring that errors and mistaken impressions will not continue to be compounded.
3. The system, in the person of the Quality Assurance Specialist, places someone in the field with the strength and authority to overcome problems and facilitate solutions arising from difficulties in installation or communication.
4. The system provides a trained individual who is skilled in conducting in-service instruction sessions for participating teachers.

Drawbacks which could be seen as possibly impeding the successful installation of a quality assurance system are almost always related to and center around the key person highlighted in the scheme, i.e., the Quality Assurance Specialist. It is often difficult to identify and secure the services of an individual with the necessary background, skill, poise, and expertise to perform the functions required. Other possible hinderances hinge on the acceptance of the Quality Assurance Specialist by the teachers whom he is intended to assist and monitor. In this instance, it is extremely helpful if the Specialist already is known, respected, and accepted both by the district officials and teachers with whom he will come into almost daily contact.

Obviously, not all the mechanics of the quality assurance concept are as yet perfected, and there are indeed obstacles to be overcome. However, the notion is viable and the philosophy is sound. It is to be hoped that education will not wait to implement the concept until the public and taxpayers demand its adoption, but rather will take the initiative and see the concept as another usable and beneficial tool for the betterment of the profession and its end goal of quality instruction for all children everywhere!

THE PRIORITY IS FOR PRODUCT DEVELOPMENT AND PLANNING

Leon Ovsiew, Professor of Educational Administration, Temple University, Philadelphia, Pa.

It is symbolic that the U.S. Office of Education and the Congress discovered the lag in educational change in 1958 and began to understand the problem in the mid-sixties, though scholars had been studying the problem and writing about it since the 1930's. As well as anything else this late response characterizes the history of educational improvement in the United States. The history is of the conflict between two opposing organizational imperatives; one, the stubborn effort to maintain the public schools in a stable status, the other to improve them by making wholesome changes. Stability has always won the conflict, as Congress has now learned.

Historically, there are lots of reasons why stability rather than change should have consistently been the stronger force, why educational change should have been slow and painful. One reason has been money. Chronically underfinanced schools must be prudent and frugal, chary of the risks of new investments. Another more basic reason has been the real scarcity of new high-quality educational products school systems could buy. The research and development capability had been virtually nonexistent before the late 1950's, and is even now in a primitive state. A superintendent of schools was wise in judging that most of the new ideas which came into the educational market place were underdeveloped and untested or were trivial; no use in rushing into a premature adoption. Besides, change ideas could always occasion some conflict and turmoil among teachers, school board, parents, and others; better to avoid all that. In short, it is remarkable that educational change has occurred at all, as of course it always has—but slowly, superficially, and grudgingly.

The Title I (ESEA) experience must have sobered many a Congressman who voted so big a piece of Federal aid after many frustrating years spent trying, for it turned out that school systems really did not have a backlog of good programs languishing just because money was lacking. In fact, they had a hard time trying to devise decent ways to spend their allotments, and most of them still are having a hard time, four years later. The Title III (ESEA) experience has not been much better. The surprise and disappointment in Washington as the Title I and Title III evaluations began to come in have not been shared by most of those who have known educational administration. They knew that most school systems were not ready or able to spend money on significant educational change, though they could readily spend more if it could be allocated to buying more of what they already had.

The reason why was, quite simply, that school systems had never developed mechanisms for planning for educational improvement and for engineering change. Such mechanisms were unnecessary because there never had been enough new and powerful educational products and ideas from among which school systems could choose, and no unused monies that could be invested if there were. Moreover, in the fifties the critics of the schools were arguing for "basic education," for a return to the three R's, not for new and different programs. It seemed then to be a kind of progress to most superintendents to be able to keep what good ideas they had. School systems did not need planning mechanisms—and the costly personnel to man them—to keep the organization stable.

Educational change demands a school system planning capability, and the greater the supply of worthwhile educational ideas and products, the more sophisticated must that planning capability be.

Hopefully, the development of new educational products and mechanisms for local planning will be the educational dynamic in the American 1970's.

If all goes well, and if the Federal posture is not, as it seems to be becoming, one of reaction, the seventies will be the decade of tooling up for educational change, of building a strong national capability for creating and adopting good new educational products and ideas. Some useful educational changes will be made in the next 10 years, primarily in curriculum and in the individualization of instruction, but they will be modest and tentative, because more fundamental and profound products and ideas are not now available. If the American educational enterprise builds its means for inventing and developing products and ideas, and if school systems build their planning and change-engineering mechanisms during the seventies, then the eighties promise to be the years of great educational achievement.

It would be wonderful if the timetable could be faster, and it may be by a little. But it will not be even as fast unless Congress commits itself to two financing priorities: one is to support a program of building a national research, development, and diffusion network to invent, develop, test, and diffuse new educational products and ideas, and the second is to support the development of planning and change-engineering mechanisms in every Local school district. Indeed, these needs are so intrinsically linked to each other that they are, operationally, a single priority.

To accept and defend this priority, Congress will have to withstand the importunings of three kinds of zealots. One kind has panaceas to sell, some specific wonder program or project which will cure all the educational ills. Maybe it will be reading. Another kind will argue that only the Local school districts know their problems and, by implication, the solutions, so they will argue for general aid with no strings. The third will raise the specter of Federal control and argue that the States should get and distribute Federal monies for education. If Congress accedes to any of these pleas, the promise of the eighties will fail, unless there is enough money to buy these political nostrums, being cynical about the waste they entail, and to fund the priority, too.

The case for the suggested Congressional priority is easy to make in 1969, though it might have been all but impossible to make in 1959. We have come at least that far in a decade. A little recent history shows why.

Up until the late fifties, those professional educators who were specialists in curriculum followed a rigid set of "principles." The keystone "principle" was that curriculum-making was, by its nature, a function of the Local school system. Because pupils and places were different, they said, curriculum had to be custom-built in each Local school jurisdiction. Even when it was demonstrated that, in fact, the Local school systems simply followed one textbook or another or "scissored and pasted" curriculum from all sorts of sources, the curriculum authorities held fast. These were evils which did not invalidate what "ought to be," they said. The second "principle" flowed from the first, holding that national commissions and committees which considered curriculum problems had to limit themselves to statements of philosophy, global and general, lest they contravene the responsibilities of the school systems. The third "principle" was that curriculum was itself somehow more mysterious than it seemed, for, it was said, all of a curriculum cannot be written. And this simple truth was allowed to mean that nothing but bare outline had to be written, that curriculum became whatever a teacher made it.

But Dr. Jerrold Zacharias and his Physical Sciences Study Committee proved all three "principles" to be false. He spent some $9 million building a curriculum, in writing, which any school district could use for some of its students. In one stroke he demolished taboos that had been inviolate for a century. After Zacharias, the deluge. "National" curricula by the score—in math, the sciences, social studies, English—came into being, and even more to the point, were adopted and used by thousands of Local school systems.

Whether because of this curriculum revolution, or because these and other events coalesced into a new "critical mass," Secretary Gardner and others in the Federal establishment were emboldened to invent and cause to be funded the concept of educational research centers, and through Title IV (ESEA), the regional educational research laboratories. Suddenly, it had become reasonable to think of education holistically instead of district-by-district, and once so thought of, the needs of all could be addressed.

Neither the research centers nor the regional educational laboratories have yet been unqualifiedly successful. So revolutionary an idea could not so soon be expected to be. But it is still true that ESEA Title IV is far and away the most significant long-term Federal legislation in the history of education—if not yet in practice, then certainly in potential. Even the primary reason for the failures and disappointments so far is corroborative, for it has been the great shortage of personnel able to cope with the new demands of invention, development, testing, and diffusion that have impeded their progress. The shortage, of course, obtains because education has never produced such people in the newly required number, never having needed them. It will take a while to get the trained people, and the success of the R & D & D enterprise will surely burgeon as the supply of talent and skill grows. The proof is that there are already some great successes among the centers and the laboratories, and they are the ones which have, somehow, gotten the right people together.

They will need more money and time from Congress, and a vote of confidence, perhaps expressed in long-term financing, to keep them enthusiastic and their staffs loyal and new people attracted to work in them. No Congressional investment in education promises greater dividends in time.

The other part of the priority for educational change has no such hopeful history. The right mechanisms have yet to be invented and tested, and the inertia has yet to be overcome. Stated as a generalization, the problem is to invent, develop, and install in each Local school system an organizational means to make planning decisions about educational changes and to engineer their implementation. It is safe to predict that until all this is accomplished, the rate of educational change—certainly of fundamental educational changes—will not increase substantially. All this cannot be done in time to make the seventies the decade of change, but neither will the eighties be the decade of great educational achievement unless in the seventies new planning mechanisms are built and Local school systems learn how to use them.

Those who claim a 20/20 perfection for hindsight may often be wrong, considering how commonly most of us repeat our errors. Still, a little hindsight focused on Federal aid strategy since 1958 ought to be very instructive.

NDEA chose the fields of educational change, but left the substance of change to be developed by Local school districts. ESEA Title I used a formula based on poverty to allocate Federal monies for educational improvement by local systems, in the hope that (a) any improvement would help the "disadvantaged" and (b) that new educational ideas specifically for the "disadvantaged" would be greatly encouraged. And Title III was supposed to fund the development of new educational ideas and programs, again leaving it to Local districts (and the States) to spend the money wisely. The successes in each of these ventures have been meager, the failures great. It seems reasonable to ask why, in the hope that the same mistakes will not be made again.

The reason why, only slightly oversimplified, has been that school systems never have been, and quite likely never will be, the agencies which can invent new educational products and ideas. Which is to say that the political reasons for our system of local home rule for public education have been confused with the educational behavior of these local school jurisdictions. However valid the political rationale for home rule may be, and it is valid, that validity has nothing to do with the educational self-sufficiency of public school systems. Expecting Local school systems to invent, develop, and test their own substantial new educational change products and ideas has been and will continue to be a grave error, and if pursued, will waste Federal money faster than taxes can raise it. Local school systems simply do not have the capability required, and even if they could, by some magic, build the capability, it would be stupid to do so. Prime educational research and development do not need 20,000 installations; they need a few dozen or so at the most. Only that number could ever be adequately funded and staffed.

All that impedes the realization of this obvious truth is that the fear of violating the principle of local home rule for education has become an obsession in Washington, and the defense of the principle an article of faith with the agencies that speak for the public schools. Both Congress and the Local schools are badly mistaken. For it does not contravene the Local home rule principle, which is a political guarantee of freedom, if educational products and ideas are produced by "national" agencies, as long as Local school systems are free to accept or reject the products and ideas so developed. Education is a national concern and a national—indeed, universal—process. Freedom is local; indeed, it is personal. To confuse these concepts, as Federal legislation for education has largely done since 1958, is to behave irrationally, as the failures show.

Congress must now be bolder than it has yet been. It must make clear that its investment in education is in building two major educational capabilities. One is a national network of agencies to do the research, development, and testing which the invention of great new educational products and ideas requires, and the other the in-house capability of school systems to plan for and implement the use of those new products and ideas which they choose to adopt. Both capabilities can be built only with new Federal money, and neither weakens the political independence of the schools while it strengthens their educational integrity.

EDUCATION IN THE SEVENTIES—MORE OF THE SAME WILL NOT BE GOOD ENOUGH

Thomas W. Payzant, Superintendent of Schools, School District of Springfield Township, Montgomery County, Pa.

Before commenting upon the elementary and secondary education needs of our nation in the seventies it is necessary to make several general statements about education in America. First, history illustrates that the nation philosophically has given high priority to education as the foundation for developing individual and collective social, political, economic, and moral strength among its people. Second, the nation traditionally has not equated philosophical and practical priorities in the distribution of resources for education. Finally, the nation must reexamine its philosophical commitment to education as a priority and be prepared to equate this commitment with the practical, pragmatic allocation of resources to meet the needs of American education in the seventies. It is the purpose of this paper to identify the requirements of American education in the seventies which justify a top priority commitment by the nation to develop policies responsive to the fulfillment of education's needs.

Central to an understanding of the requirements of American education in the seventies are the goals to be established for education. These goals may be grouped in three major categories: learning for literacy, learning for human skills, and learning for career.

The goal of developing a literate citizenry through education is ever timely. While the percentage of the total population achieving a minimum degree of literacy continues to rise, the actual numbers of functional illiterates remain staggering when measured against the standards of technological sophistication and economic affluence achieved by the nation. It is inexcusable for America to tolerate conditions which allow children to become functional illiterates. Every individual must have more than just an opportunity to learn to read, to write, to compute simple arithmetic, and to communicate orally. An idle hope or a guarded promise is no substitute for results. Without a minimal mastery of the basic skills no individual can compete fairly for a share of the success, prosperity, and happiness available to him. Not only is he less able to effect his own human development, he is limited also as a productive citizen, politically, economically, and socially. If man is capable of conquering space, as he has demonstrated in the decade of the sixties, he must be able to recognize the necessity of realizing a minimum grade level achievement in reading and other basic skills for all children educated in the seventies.

A second goal for the seventies relates to the acquisition of human skills—in short, learning how to be human. Human skills are much more difficult to define than basic skills and especially difficult to teach. These are the skills which a person utilizes in interaction with other people, such as being sensitive to the feelings and attitudes of others, understanding the elements needed for cooperation, recognizing values, coping with diversity and value conflict, and analyzing the inconsistencies in one's environment. The development of human skills enables the individual to make decisions with an awareness that consequences will result and that responsibility must be accepted for actions. In using human skills to be sensitive to others, the individual also learns to know himself. He uses knowledge to draw inferences and to seek solutions to personal and social problems. To be human is to care. To be human also is to fear and to resist change. Education in human skills must be advanced to enable children to learn how to care and how to cope with change realistically and creatively.

A third goal for education in the seventies is career training. Elementary and secondary education must prepare children for a career. When the child terminates his formal elementary and secondary schooling, he must be prepared either for further training at an institution of higher learning or for immediate entry into the world of work. The observations that greater numbers of young people each year extend their formal schooling beyond high school and that an increasingly complex and specialized economy makes continuing education a necessity do not preclude the need to provide vocational training at the secondary school level for young people. The challenge of education in meeting the goal of career training is to make available for students the bodies of knowledge beyond the basic literacy skills which they will require to reach the next level of preparation for career. Diversity of opportunities and educational offerings is a necessity to accommodate the wide range of career goals which are realistically available to young people. That the educational opportunities for the vocationally-oriented student should be sacrificed in the best interests of the college-oriented student is not defensible or consistent with the nation's philosophy or the individual's right to an education.

If these goals as stated relate realistically to educational needs for the seventies, they have implications for the schools and the resources necessary to run them. Before turning specifically to priorities for resource allocation, some general challenges for the schools are suggested.

First, the schools as institutions designated to accomplish educational goals must make dramatic new efforts to become more child-centered rather than system-centered. The schools need to ask the question: at what point does the school's preoccupation with sorting, grouping, processing, and labeling children render it ineffective in recognizing and fulfilling the child's maximum potential? Should the school and its clients, students and parents, consume precious time worrying about *the* standard prescribed by the institution and demonstrating concern for measuring the extent to which the child measures up or down from the standard? The schools must de-emphasize an arbitrary single standard and strive to meet the child's standard, which should be defined as his individual need and special requirement for educational growth.

The system-centered approach to education has resulted in an inversion in the development of the curriculum. The curriculum in recent years has been designed from the top down, rather than from the bottom up. The graduate schools have governed the curriculum of the undergraduate schools. The colleges in effect tell the high schools what courses to include in the curriculum. The junior high schools often become facsimiles of the high school. The elementary schools, at least at the upper levels, orient the curriculum toward preparation for junior high school. What often is missing in this curriculum orientation is the fundamental concern for making the curriculum responsive to the child's needs at a particular point in his development. Unless the curriculum is responsive to the needs of the child without overriding concern for the organization of the institution, it becomes an insensitive unproductive tool for sorting children. Education in the seventies must become more learning-centered and less teaching-centered. The curriculum exists for the child. The child does not exist for the curriculum.

Second, the schools must be more planning-oriented in the seventies. It is always difficult to plan for the unknown, but schools must look ahead, utilize available tools, and make some calculated judgments about the future. Insights concerning the future are necessary to assist in making intelligent decisions about educating not only future generations, but the present generation which must be prepared to face the challenges of the future. Some reasonable predictions about the future with implications for schools and planning might include the following.

Technological change will provide a different kind of industrial complex requiring new kinds of occupational patterns. Characteristics of the world of work, wages, hours, working conditions, will change. New patterns of work will bring about new patterns in the availability and use of leisure time.

The alteration of time and distance will lead to an increasingly mobile society. A mobile, shifting population may reduce the uniqueness of regions and lead to more conformity.

The problems associated with urbanization and its impact on man and his environment will become more and more pressing.

The realities of living in a multiracial society will become more difficult to ignore.

The gaps between literacy and illiteracy, poverty and prosperity, opportunity and despair, will be more easily identified and less tolerable to an increasingly affluent society.

Knowledge will continue to expand at a rapid rate with resulting pressures for greater specialization, and with greater specialization the role of the generalist will become more difficult, but nonetheless important.

The challenge of government still will be to respond to the will of the people, while the people will continue to complain about and misunderstand the need to be governed.

Instant communication, a rapidly developing, sophisticated product of the sixties, will be further refined, creating the challenge to avoid instant misunderstanding and to place the medium in proper perspective to the message.

In looking to the future and planning for it the schools should not assume that education should be or can be always one step ahead of the emerging culture. Rather, the schools must recognize that the culture is constantly emerging in new forms and that education must provide the student with the means to confront it and shape it constructively.

Third, the schools must understand that a major challenge confronting education in the seventies will be the acceptance of a new definition of intelligence which will require a willingness to take a new look at the concept of intelligence and how it is measured. The important thrust of education and learning should become not what a person knows, but what he does when he does not know. In this sense intelligence need not be merely a static force which can only be explained in terms of heredity and/or environment. It has a more pragmatic quality which is a function of the individual and the learning situation he finds himself in.

Fourth, the schools must create better means of determining to what extent the goals of education are being accomplished. Recognition of inherent difficulties in transferring to education technologies for evaluation and measurement successful in industry should not preclude continued research and development of meaningful realistic assessment tools which can hold schools accountable in a just and equitable manner. The tools of modern technology are presently more complex than those typically used in education and it will not be sufficient for education to rely on specialized personnel hired for their technical competence and to delegate basic responsibilities for decisions on effectiveness of program. Educators are experiencing some anxiety because of unfamiliarity with the potential and the limitations of emerging administrative technology. It is clear that the magnitude and complexity of the challenges confronting education in the decade ahead demand further exploration of a partnership between educators and their industrial counterparts to test the available technologies and develop new methods for measuring the impact of educational programs. Expanding demands for resources require more difficult allocation decisions. Priorities must be set realistically to effect progress.

Before turning to several observations concerning the implications for Federal policies, more specific reference is made to program priorities for the seventies.

Regardless of the individual perspectives of school systems, whether they be urban, suburban, rural, affluent, impoverished, etc., the problems of education in the big cities relate to all. The destiny of the nation has been shaped in many ways by its cities. The success the nation has in refurbishing the cities will be vital to the nation's future. Vibrant, exciting, productive urban school systems successful in developing human potential can be a reality with the proper commitment of human and financial resources. Urban schools must offer the same means of social and economic mobility to children that are offered in other school systems.

Often associated with urban education, although by no means the special province of the city, is early childhood and preschool education. Research findings continue to support the premise that the first five to six years of a child's life are most crucial in his educational development. School systems throughout the nation must acknowledge the importance of early childhood education and provide the necessary programs.

Despite the passage of the Vocational Education Act of 1963, vocational education has been viewed by many as a second-class educational opportunity. In an era when the virtues of academic excellence have been accentuated, the student electing a vocational education program at the secondary level has risked peer group and adult rejection. Because vocational education is often defined narrowly, it can be viewed mistakenly as a remedial program for the untalented student. On the other hand, vocational education can be viewed quite broadly as career training for all students regardless of their ultimate vocational choice. Education and industry must work in the seventies to correct the social and educational inequities of dual vocational and academic school systems, institute preventive as well as remedial programs, and better coordinate the efforts of a multitude of agencies involved in manpower development, training, and vocational education.

Essential to the implementation of any programs are people. In the current 1969–1970 school year 2,243,000 teachers are working in the nation's public and nonpublic elementary and secondary schools. One hundred thirty-two thousand, four hundred seventy-one administrative and supervisory personnel work with these teachers to serve 51.5 million children. Attraction of high quality human beings to the education profession must have priority. Experimentation with different kinds of teacher roles, the use of the paraprofessional, training and retraining opportunities, in addition to realistic salaries and fringe benefits must be developed further as incentives. Teacher training institutions must have the financial resources to undertake research and to work with school systems in developing more effective programs for staff development.

Patterns in the use of school facilities will require adjustment in the seventies to meet the requirements of program changes and to provide for economies in utilization of resources. The educational program need not be limited to the conventional classroom when resources of the wider community are pertinent and available for use. Six-hour utilization per day and nine-month utilization per year of a school system's physical facilities need not be the norm for the seventies.

If the observations of the needs of education in the seventies set forth above have validity, what will be the implications for Federal policy making in education?

The allocation of Federal dollars for education must be expanded. Each year the States and Local districts find it necessary to spend greater portions of their tax dollars simply to maintain a level of programming available during the previous year. Adding new programs and providing for research and development money cannot have priority when dollars for basics such as salaries, classrooms, and minimum supplies and materials are scarce. How can the Federal government further restrict its investment in the future of our nation by removing from current appropriations much needed dollars for education?

The basic thrust of Federal financial support must be coordinated with the efforts to finance education more adequately at State and Local levels. In Local districts the property tax has been stretched to great limits as the base for financing education. Despite corrective efforts, inequities exist in assessment practices, the industrial tax base is dispersed, and tax exemptions are uneven and sometimes discriminatory to certain local districts. Revenues from State taxes have not been able to keep pace with the increasing demand for educational services. Federal block grants to States for education may result in perpetuating the inequities that exist in State patterns for the allocation of financial resources. In short, the money is not always allocated where the need is greatest. On the other hand, complete allocation of Federal dollars for education via categorical aid programs limits States and Local districts in exercising their educational policy-making roles.

To assist the States in meeting their financial crisis a plan of Federal revenue sharing is needed. Such a plan must provide for equitable distribution of revenues among the States and within the States. Additional financial resources available to the States through such a plan will enable them to raise the level of funding for State and Local services. Such a plan, however, should not be viewed as a substitute for the extension and expansion of Federal categorical aid programs.

Federal categorical aid programs for education must be planned on a longer range basis. Programs cannot be planned and executed effectively with the necessary commitments required in the hiring and training of personnel, ordering of materials and supplies, and securing facilities when severe time lags in appropriations and payments occur. Nor will evaluations of programs be meaningful when research designs cannot be developed and followed though. A means must be found to provide advanced funding for at least a portion of major programs under legislation such as the Elementary and Secondary Education Act of 1965. Longer range planning will be possible with increasing stability in Federal programs and provision for advanced funding. Standards of accountability can be higher and more realistically met under such circumstances.

The priorities for Federal programs in education for the first years in the seventies appear to be clear. First, we need massive aid to the cities to allow for the planning, developing, and implementing of a master plan to make city education superior. The guidelines of the Urban Education Task Force should be the starting point for such legislation. A note of caution, however, is necessary before means such as "voucher systems" are proposed to enable children to take advantages of alternatives to public schooling. A "voucher system" may be a subtle guise for class discrimination and actually restrict, rather than stimulate, the mobility of students between the public and private sectors. In such cases the elements of competition between alternative educational systems valued by advocates of "voucher systems" really disappear as the educational options in reality only become available to a select few.

Second, implementation of the programs provided with the extensive amendments to the Vocational Education Act of 1963 should proceed with the additional thrust to expand the concept of career training beyond that of a narrow trade and industrial base. Changing occupational patterns, displeasure with the possibility of extending the inexcusable dichotomy between vocational and academic school opportunities, and knowledge about the rate of return on investments in the education of human beings demand the upgrading of quality in the career training aspects of education. With such upgrading will come a rise in status for vocational education. The Federal government also must exercise leadership in reducing the overlapping efforts of various agencies engaged in career training.

Third, incentive grants for research and development and innovative programs must be made available not only to universities, but directly to local school districts which propose to experiment with education as their highest priority have made possible this leadership. roles in the past in experimenting with innovative programs. Their wealth and willingness to expend great tax effort in the interest of education as their highest priority have made possible this leadership. Many districts, however, are finding that they have reached a ceiling in effort and no longer can justify the additional expenditures for research, development, and innovation. These districts in addition to the large cities must have direct access to Federal funds for innovation if they are to continue to exercise their vital responsibility of experimenting with new ideas. Without such experimentation, alternatives to current educational methods will not be tried. Effectiveness in achieving the goals noted at the outset will be determined by creative and imaginative effort in probing the unknown, not merely by providing more and more of the same techniques which have not accomplished the job in the past.

Finally, and of most import, is the necessity to keep central to the development of Federal programs for education the standard of equal educational opportunity. Equal educational opportunity cannot always be provided with equal expenditures of dollars. An investment of $500 in the education of one child may be required to accomplish the same end realized with the investment of $100 in another child's education. Substantial efforts have been made to provide compensatory education, particularly for the nation's minority group children. As these efforts continue to provide remedial education and close the gap not only between unequal and equal educational opportunity but between unequal and equal educational results, concern must be directed at the root causes of the nation's educational problems and the design of preventative programs which one day hopefully will render remediation obsolete.

PERSONALIZED EDUCATION: AN ATTAINABLE GOAL IN THE SEVENTIES

Robert F. Peck, Codirector, Research and Development Center for Teacher Education, and Professor of Educational Psychology, The University of Texas, Austin, Tex.

Complaints by students and teachers about the dehumanizing effect of mass-produced education are not limited to the college years. At the high school level, especially, where the most serious dropout rate occurs, this is cited as a major cause for loss of faith in the schools. Indeed, even when students at the elementary level are asked how school could be improved, they tell us they wish their teachers would know and understand them more as individuals; and they ask why their teachers cannot talk a little less and listen more.

Their urging that education should genuinely take more account of the individual is not mere sentimentalism. Research evidence from schools in Iowa, Kansas, New York, and Texas is already available to prove that personalized education creates more effective teachers and more effective students.

What is "effective"? It means people who are more self-starting, more self-motivated, more open-minded and more self-disciplined in their learning. When teachers are trained with a careful eye to their individual aspirations in life, their own personalities, and their *reasons* for acting as they do, they become more alert to the effects of their actions on students. What is more, they develop a stronger interest in teaching as a career.

The research is only beginning on elementary and high school students. Nonetheless, it already indicates that when teachers are trained to study children, individually, and to devise even some learning experiences that are personally tailored to the particular child, significant gains are made in school achievement. What is more, the teachers show increased morale and a sense that they are, at last, getting their hands on "the real problem.".

THE NATURE OF PERSONALIZED EDUCATION

What does it mean to "personalize" education? It does *not* mean showing a vague, sentimental interest in people. It does not mean turning every teacher into a skilled psychologist. It certainly does not mean confronting the teacher with the impossible task of singlehandedly creating individualized instruction for 30 to 300 students each day. A total system could be developed for any American school, however, such that no student would remain an unknown human quantity, treated by uniformly paced, uniformly prescribed education. This would break our long history of failing to educate the less-advantaged half of our population, to cite only one notable defect of our traditional mass-production system.

There is no one right way to accomplish this goal. At least, there has been so little support for educational research, until recently, that there has scarcely been time to test alternative methods on any sizeable scale. The basic idea can be stated rather simply, though. Personalized education involves an intensive, objective analysis of the particular nature, needs, and life circumstances of the individual learner. Further, it requires a detailed understanding of his personal feelings about himself, his schooling, the people in his world, and his own future. Above all, it requires that a teacher create a human relationship with him which blends sympathetic, personal interest and tough-minded realism.

The formula has been advocated for centuries. Good teachers have always tried to practice it to the limits of their knowledge and to the severe practical limits on their time. Now, however, we are beginning to discover methods, develop a technology, and see new organizational patterns which can make education a systematically personalized experience for every American, really for the first time in human history. This *can* happen *if* the necessary research, development, and dissemination are adequately pursued.

AN EXAMPLE AT THE COLLEGE LEVEL

At the University of Texas, ten years of modestly funded research, followed by four years of increased support through the R & D Center, have produced a reasonably simple, practical model for personalizing the education of teachers. There is now the first, modest but objective evidence that it has the desired results. A parallel study by J. T. Sandefur, of Kansas State Teachers College at Emporia, provides similar, reinforcing evidence.

It has taken years to develop the expert staff to generate the complex technology for executing and testing the personalizing procedures. It is taking more years to spell out the entire system so that other educators can use it in an accurate, self-checking way. Highlights of the system can be sketched, though, as follows.

All undergraduate candidates for teacher education go through an assessment process that measures not only subject-matter knowledge but experiential factors, attitudes, and personality characteristics. Drawing all of this information together, a staff psychologist forms an in-depth picture of the individual student. The student is then interviewed by a trained counselor, usually for one to two hours, to discuss his or her major characteristics, how these relate to a teaching career, and what the student wants to do to enhance his existing strengths or deal with problems he has not fully learned to handle. In essence, this is a "feedback" session where the student has a chance to see himself objectively, in a realistic but supportively-toned atmosphere. Needless to say, it is vitally important that the counselor's attitudes be both objective and constructive.

At this stage, some students—a few—decide they do not really want to go into teaching. A few others are encouraged to think about other, specific careers where they might function more effectively or more happily. For most, through, this is the first step in a continuing process of personalized instruction.

Next, the students' actual, primary concerns are assessed. (It is a waste of time, we find, to try to teach child psychology to a young woman at a time when she is preoccupied with anxieties about what her supervising teacher wants, or whether she can "control the class." She may memorize facts for a test in child psychology; but by the next year she acts as if she never heard of it.) In R & D experimental courses, efforts are made to time topics so that they are in step with the naturally occurring sequence of concerns which the students show.

Moreover, ways have been developed to allow self-paced learning, with tutorial help from older undergraduates who have had student teaching. Thus, both the sequence and the pace of learning can be tailored much more to the specific needs of each student.

The student is involved, from the outset of training, in actual efforts to teach. This may be with classmates who take turns playing the role of students; or it may be with school children. In either case, the student is videotaped as she teaches. She then has a private viewing of her videotape, in company with an instructor who knows all that has been found out about her in the program, to date. Sometimes, it is the same person who gave her feedback from her assessment data. In any case, this is another opportunity for self-confrontation. The emphasis is not on coaching her to carry out some specific teaching technique, but to help her see what she naturally tends to do. Almost always, the student wants to figure out ways to do a better job of teaching. The instructor's role is to facilitate the student's insight as to *why* she acts as she does, what she wants to change, and how she might make beneficial changes that would still be true to her own nature. Such changes, it seems, are most likely to endure and to have beneficial effects on pupils; but the proof of this is still in the testing stage.

Such behavioral feedback from recorded teaching performance is given in the context of a system of objective codes. The student learns several sets of ideas for identifying exactly what she does as the teacher and exactly how a given child, or the whole class, reacts to each of her actions. For research purposes, a trained staff codes the video tapes and computer programs analyze the student teacher's behavior and the children's reactions. This is not necessary, however, for the personalized feedback to the individual student. There her spontaneous discussion of things she sees herself doing is what appears to have the most beneficial, long-term effects.

In short, this program treats the teacher-to-be exactly as we hope she will treat her pupils in the future: with alert, objective, sympathetic attention to what each child is like and why he does what he does.

AN EXAMPLE AT THE PUBLIC SCHOOL LEVEL

To extend this principle into classroom use, another experimental program is now under way in the R & D Center in Austin. It has been used in elementary schools and high schools serving both advantaged and disadvantaged ethnic-minority children. For a number of research purposes, all children and participating teachers contribute a diversified array of measures of interest, attitude, and coping style at the beginning and end of the school year. Six videotapes are made of each class during the year, as well.

The crux of the method, however, is to have the teacher select a few children for intensive, year-long study and experimental instruction. All of the staff resources of the school are involved, as needed: other teachers, the principal, the counselor, the "helping teacher," the curriculum consultants. In addition a behavioral consultant from the university part of the R & D complex works as a partner with the teacher. The object is to use the teacher's own observations, the assessment data, the videotapes, and anything anyone else knows to help the teacher "tune in" to the capacities, the motives and the feelings of each of the children she selects for special study. In the light of such a diagnostic analysis, she then tries to tailor her treatment of the child to his specific situation. She and her consultants then observe whether her tactic works or does not work. The next stage is to discuss and revise her tacts with that child. The child is at no time aware that he is being singled out for this special attention. Most of the time in class, needless to say, the teacher is dealing with other pupils, or with the class as a whole.

Obviously, no teacher could find the time to attend this intensively to every child in an elementary class of 30, or high school groups of 150. Nonetheless, as teachers learn to focus sharply on three or four children, they report that they begin to look with new insight at many of the other children in class, in the few moments a day when they get the chance. Research is underway, of course, to measure the amount of this "radiation" effect, if it occurs.

Research is also afoot to study exactly what kinds of consultant input lead to effective changes in teacher tactics; what effect a given tactic has on different knds of pupils; and what characteristics of teachers predispose them to use certain methods most effectively or deal with certain kinds of children best.

Needless to say, the systematic audit of the aptitude/achievement ratio, motivation and personality patterns of all the children in a school turn up a great many problems which were previously unknown, early enough for preventive action to be taken if there is someone willing and able to take it. The help of many community agencies can be efficiently involved, as needed, when children with special needs or special problems are identified.

WHAT IT WOULD TAKE TO CREATE PERSONALIZED SCHOOLS AND COLLEGES

A major change is needed in the way teachers are educated. Put simply, it needs to be personalized and it needs to allow for far more individualized patterns of learning, in both subject matter courses and professional courses. This is what all college students are asking for. Certainly, with prospective teachers, who will teach as they are taught, it seems particularly important to practice what we preach. So far as the modest available evidence goes, it works better than the mass-production method, with results proportionate to the amount of personalizing that is done.

If much of the content were put into self-paced, partially self-studied units, the faculty time that was freed from lecturing could go into the one thing which no computer and no library can do: developing an informed, interested, personal relationship with students. Only this amount of staff time could permit any college to responsibly claim it provides "individual guidance." At present, for most students, this is a sadly farcical, untrue claim. (One noteworthy exception is St. Scholastica College in Duluth, Minnesota.)

Some more specialized staffing would also be needed. Not all professors are suited to give constructive, personal guidance. Some are not interested; some are interested but not qualified; some would need to be specially trained in the various techniques for personalizing the student's learning.

Such a program probably could not be done as cheaply as the present system of mass-production. Collecting systematic assessment data and scoring and interpreting it require a small additional staff of trained people. Providing videotape or audiotape equipment, even of the inexpensive kind, would be an additional expense item, with some technical staff required for maintenance. Nonetheless, the probable costs do not appear to be so much greater than present levels as to forbid the improved program. Indeed, most large corporations spend a good deal more on personnel training, at all levels, than colleges or school systems of comparable size. The American public just is not used to paying for the amount and quality of staff training, in public education, that is taken for granted in profit-making enterprises.

A second set of changes need to take place in the public schools. A new pattern of staffing seems almost inevitable if education is to improve. If only because more than 50 percent of incoming teachers disappear from the profession within five years, the continuing expertise must obviously reside in a core of highly skilled people who can act as consultants and as senior colleagues (*not* heavy-handed supervisors) to the "junior teachers" who, in fact, make up the majority of faculties in American schools. These would include people who are highly skilled in arranging and selecting curricular materials, in assessing children, in acting as consultants to teachers on both behavior problems and learning problems. There would be people who can effectively plan and operate intricate, individualized systems of curricular materials, with or without computer assistance.

Given the explosion of knowledge, the role of the teacher simply must change from that of information-giver to that of diagnostician and guide to student-propelled learning. Some teachers or counselors, whatever they may be called, will need extremely thorough training in the complex skills for analyzing the motives, capacities, and behavior patterns of individual students. Their function, thereafter, would be to work in partnership with the other teachers to help plan individualized instruction.

School administrators will also need to shift their values considerably. At present, most principals are primarily locked into the roles of plant manager, chief bookkeeper, and disciplinarian. At least some administrators must be freed to become instructional leaders. It is essential that the top person in a school be not only actively supportive but deeply knowledgeable about all aspects of the personalized instruction program.

The image of the "ideal classroom" also will have to change. For generations, and even today, the image has been that of a silent, "orderly" place where the children are all seated quietly, either reading or listening to the teacher. At best, this produces almost completely passive learning. At worst, it breeds bored rebelliousness at the enforced inactivity. Some audacious schools are now doing away with "study" hall and assigning children to serve as tutors to their classmates or to younger children, in a way that actively engages them in the teaching-learning process. Such experimental evidence as exists is a powerful argument for exactly this kind of active involvement of children.

A third major component of education for the seventies will be the construction, testing, and improvement of whole systems of individualized curricula. The work of the Pittsburgh R & D Center and the Wisconsin R & D Center is a noteworthy example of this trend. The existing system of lock-step curricula is boring and unfair to both children and teachers. On the other hand, it is vastly unreasonable to expect teachers to invent brilliant curricular plans and materials as they go, differing for each student. Nothing less than a very large-scale, nationwide R & D program is needed to do this job, for all of the many kinds of subjects which our schools try to present. Large and appropriate variations need to be discovered and implemented to take account of the vast differences among children from different ethnic groups, different levels of language mastery, and from homes with value systems which differ greatly from the traditional value systems of middle class teachers.

Finally, none of these changes can be effectively brought about without something approaching a tenfold increase in the proportion of the total educational budget which is devoted to research and development. In business, in medicine, and in the defense establishment, a minimum of 6 to 8 percent of total outlays is normally dedicated to R & D. In education, even now, the grand total allotted for R & D work is less than one-half of 1 percent. Furthermore, while the normal timetable for the invention and testing of complex new procedures is on the order of 10 to 15 years in all of the other sectors of the society, in education there are repeated, urgent demands for "instant success." Even the inadequate current level of funding for R & D work, in all branches of the U.S. Office of Education, is actually being reduced in Fiscal 1970. There appears to be a serious risk of a further standstill in Fiscal 1971.

The research part of R & D is needed because there simply is very inadequate knowledge about the detailed educational practices which will work effectively with specified kinds of students. We know that there are many different types of students, but the crucial elements that differentiate them have never been adequately identified. By the same token, we know there are many different ways in which teachers try to get results, but there is literally no scientifically detailed information about the specific effects of given teachers on one or another type of student. Methods need to be developed for objectified measurement of teaching practices and student learning practices. A good beginning has been made along these lines but it is a bare beginning.

Another research product will be improved methods for assessing the crucial characteristics of very young children and of high school children who are functionally illiterate. There are promising beginnings but nothing like well tested methods which could be used economically for universal assessment of all children, at an early age.

A third kind of research has barely begun: an analysis of exactly what instructional steps produce beneficial or detrimental change in students, whether at a college level or at the public school level. We have made some useful beginnings here, but they are in their infancy.

As new knowledge and new methods are developed, it is even more expensive and more difficult to turn them into reasonably foolproof, fully explained packages of information which can be adapted by educators all over the country. Typically, the initial version of such a package has many shortcomings which can only be discovered and remedied by repeated field testing. Such field testing calls for far more rigorous, detailed evaluative research than American educators are accustomed to. (A notable case in point is the serious failure to apply effective evaluative measures to the several billion dollars of Title I funds which have been spent just in the last few years. "Local autonomy" has often led to excessively fragmented, ignorant decision making, in the absence of resource people who could plan and carry through sound, pertinent evaluative procedures. This has happened even though Congress explicitly required that 10 percent of the Title I funds be used to evaluate the effects of the programs.)

In summary, during the 1970's it would be possible to develop and test educational procedures which would give far more personalized, individualized, flexible training to many of our children and many of our teachers. It would be most unrealistic to assume that the entire country could be converted to such a program within one decade. Nonetheless, with much more sizeable and more dependably maintained fiscal support, and with the active encouragement of the Congress to pursue such a goal for American education, solid, permanent progress could almost certainly be assured.

THE METROPOLITAN EDUCATIONAL PARK*

Thomas F. Pettigrew, Professor of Social Psychology, Harvard University, Cambridge, Mass.

The need for radically new designs for American public education was never more immediate and obvious. For a variety of reasons, only a few of which are radical in character, the present structure of our schools is inadequate to meet the heavy demands placed upon them by our society. But as a social psychologist who specializes in race relations, I shall dwell today principally on racial reasons for why I strongly support one possible new structural design for public education.

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*Paper presented to the American Psychological Association, Washington, D.C., 1969.

My reasoning begins with the following facts from relevant social science research:

(1) Interracial schools featuring cross-racial acceptance have significant benefits, especially in the early grades, for both white and black children.

(2) Schools with significant numbers of middle-class children have significant benefits for less-advantaged children regardless of race.

(3) Public schools in the United States are rapidly becoming *less*, not more, heterogeneous both in terms of race and social class.

(4) In small cities and towns, the remedies for this growing separation are well-known—district-wide redrawing of school lines within a district, the pairing of schools, careful placement of new schools, alteration of feeder systems, and conversion of more schools into district-wide specialized institutions.

(5) The problem is most intense in the large central city, brought about basically by: (a) the anti-metropolitan manner in which our school districts are drawn and operated; (b) the growing racial and class ecological divisions between central cities and their suburbs; (c) the depletion of the central city's pool of middle-class white children by large parochial and private school systems; and, finally, (d) the cynical and willful planning by major school systems to achieve maximum racial and class segregation. Here the techniques for heterogeneous schools in smaller localities are mere "band-aids" at best and counter-productive at worst.

Armed with these data-supported observations, one is soon led to consider new ways to structure our public schools in metropolitan areas which are not based on anti-metropolitan, "neighborhood school" assumptions. Actually, the four basic reasons just cited for the growing intensity of big city race and class segregation of schools provide the form and direction for future efforts. Thus, large educational complexes drawing from wide attendance areas will be essential. These attendance areas will generally have to include both central city and suburban territory in order to ensure the optimal stable racial mix. The sites for these facilities must not only be convenient to the mass transit network but must also be on racially "neutral turf." Such locations would avoid immediate public labeling of the school as "white" or "Negro."

Racial specifications are by no means the only criteria for future remedies. Public schools in our largest cities have lost their former preeminence as the innovative educational leaders. Berkeley, California, Newton and Brookline, Massachusetts, and a host of other smaller communities are now the pace-setters. Thus, the plans for the future should accent and facilitate innovation. Indeed, future public schools should possess facilities which could rarely be duplicated by expensive private schools if they are to compete effectively for the children of advantaged parents. Such arrangements, of course, will cost considerable money; thus, a final criterion must be significant Federal support of capital costs.

Several designs would meet these criteria; but let's consider one design as illustrative. Ringing our major cities with educational parks, each of which serves both inner city and suburban students, offers one basic plan—*the metropolitan park plan.* Each park would be located on "neutral turf" in an inner-ring suburb or just inside the central city boundary; and it would be so placed that the same spoke of the mass transit system could bring both outer-ring suburban children into the park and inner-city children out to it. The attendance area of each park would ideally cut out a metropolitan pie-slice containing a minimum of 12,000 to 15,000 public school students, with the thin end of the slice in the more dense central city and the thick end in the more sparse suburbs.

But what incentive could generate the metropolitan cooperation necessary for such a plan? A number of systems have considered educational parks, but they usually find the capital costs prohibitive. Moreover, many systems are currently hard-pressed for expansion funds—especially as referenda for school construction bonds continue to be defeated throughout the nation. Federal funding, then, on a massive scale will obviously be needed, though it must be dispersed in a far more careful and strategic manner than the everybody-gets-his-cut, "river and harbors bill" principle of the 1965 Elementary and Secondary Education Act. So long as alternate Federal funding for capital costs is available, many school systems—particularly those in bad faith—will not choose to join a metropolitan park plan. Therefore, future Federal construction grants must: (1) involve more than one urban district and the consortium must always include the central city (note that any one park would not require the entire metropolitan area to join the proposal—though some coordination would be necessary, perhaps through review by each area's metropolitan planning commission); (2) require racial and social desegregation—and, hopefully, integration—in every school involved (metropolitan involvement makes this requirement feasible); and (3) exclude alternate routes for Federal building funds (though if the first two criteria are met, the proposal need not adopt the metropolitan park plan as the model).

A 15,000 student, $40 to $50 million dollar park, 90 percent of it paid by the Federal government, would be a powerful inducement. But is such Federal funding possible in the near future? The answer, as with many other domestic questions, rests with the termination of the Vietnam War. Once the conflict ends, economists will urge major domestic spending to take up the slack from the cutback in defense expenditures. Nothing like the Vietnam War costs, of course, would become available for the domestic scene. Yet, at such a time, a $2 billion-a-year school construction program—enough for building roughly 40 parks annually—is not unlikely. Here lies both a great opportunity and an equally great danger. If the money is distributed in the easy fashion of the 1965 Education Act to individual school districts, the antimetropolitan effects could be disastrous for both race relations and public education. Federal building money spent in such a manner would further insulate aloof suburbia and institutionalize *de facto* school segregation in the inner city for at least another half-century. School construction money is likely to be made available by the Federal government after Vietnam. The vital question is: What will be its form and effects?

The educational park idea is not a panacea; there can be elegantly effective and incredibly ineffective parks. Yet ample Federal funding, combined with the nation's planning and architectural genius, should be able to set a new standard and direction for public schools. This combination has successfully been applied to public facilities ranging from interstate highways to magnificent airports. Now the combination should be applied to the benefit of children.

From high-rise structures to multiple-unit campuses, educational parks themselves can be planned in a variety of ways. The most widely discussed design would involve a reasonably large tract of land (80 to 100 acres as a minimum) and no fewer than 14 or 15 schools serving grades from kindergarten through high school. One educator has visualized a campus design for 18,000 students consisting of two senior high, four junior high, and eight elementary schools. If the park were to serve an especially densely-populated section, it would be best if it did not include the entire grade spectrum so that it could still cover a reasonably expansive and heterogeneous attendance area. In general, however, an educational park resembles a public university. Both include a variety of educational programs for a large group of students of varying abilities. And like public universities in our major cities, some parks could consist of high-rise structures and some could develop a more spacious campus atmosphere with numerous buildings. Hopefully, the metropolitan park could usually follow the campus model, since sufficient space would generally be obtainable at suburban-ring locations.

Apart from offering racial remedies, the metropolitan park concept has a number of distinct advantages. First, there are considerable savings that accrue from consolidation; centralized facilities, such as a single kitchen, need not be duplicated in each of the park's units. Savings on capital costs, too, would accrue from simultaneous building of many units at one location. These savings, however, do not necessarily mean that the total construction and operating costs would be less than those for the same student capacity spread out in traditional units. The advantage is that for essentially the same cost metropolitan parks could boast significantly better facilities than traditional schools. Consequently, each child would be receiving far more per educational dollar in the metropolitan park.

The improved centralized facilities of the park should maximize innovations and individualized instruction. It is difficult to institute new approaches to learning in old settings. A prime finding of social change research is that new norms are easier to introduce in new institutions. The metropolitan park offers a fresh and exciting setting that should encourage new educational techniques and attract the more innovative members of the teaching profession. In addition, the park presents a rare design opportunity for building innovation into the physical and social structures of the schools. This, of course, includes the latest equipment for aiding the teacher and the student. Centralization enhances this process, for example, by providing efficient concentration of all electronic information storage, retrieval, and console facilities. Yet such centralization of equipment should not be viewed as leading inevitably to a wide assortment of frightening Orwellian devices cluttering the school. Poor planning could lead to this result, but the accent should be on individualized instruction as the unifying and positive theme—a theme far more possible in the park design than in the present model of scattered "little red schoolhouses."

Many innovations made possible by the metropolitan park extend beyond the equipment realm. For instance, the teaching profession today suffers from being one of the most undifferentiated by rank of all professions, a characteristic which discourages a life-long orientation to the field. While the medical profession has a graded rank order of roles from intern and resident to chief of a service, teachers must either enter administration and become principals or shift to more prestigious schools in order to move up the ladder. By concentrating a large number of teachers in a relatively small area, far more role differentiation becomes possible. Thus, a teacher might progress from an apprentice in a team-teaching situation, to a master teacher in a team, to a supervisor of master teachers, etc. Faculty concentration also allows more intensive, across-school, in-service training and the formation of departments across schools with rankings within departments as in universities (e.g., a junior high history department consisting of all history teachers in the four or five junior highs on the campus).

Concentration of students also allows wider course offerings. Specialized classes, from playing the lute to seventeenth-century English literature, become economically possible when the students electing them are gathered from units throughout the park. Moreover, concentration makes possible some remarkable facilities that can be shared by all of the park's units—e.g., an Olympic-sized swimming pool, extensive auditorium and theatrical equipment, etc. These special facilities could far surpass what is now available in all but the most affluent districts, become a source of student and community pride, and provide a competitive status advantage over private schools. They also would be used efficiently, rather than the minimal use expensive facilities receive in single site schools.

The metropolitan park offers unusual opportunities for an effective liaison with a local university or college. Nova, the extensive educational park near Fort Lauderdale, Florida, even plans to include college and graduate work right on its campus. But direct contiguity is not necessary to develop a mutually beneficial coordination.

Recall that an important cause of public school segregation in many central cities is the enrollment of large percentages of white children in parochial schools. This fact suggests closer cooperation between public and parochial schools; and the metropolitan educational park could facilitate such cooperation under optimal conditions. Most parochial systems are currently in serious financial condition, and tapping into the park's superior facilities should prove attractive. Roman Catholic educators point out that those items that cost the most—the physical science laboratories, gymnasium, and stadium—tend to be the least related to the "moral training" that they believe to be the distinctive feature of their schools. Scattered site schools, public and parochial, make "shared time" and other cooperative arrangements awkward, at best. And when parochial students come to take their public school class as a group, such segregation often reaps its usual harvest of intergroup tension and hostility.

A recent idea from Vermont introduces a more promising possibility. At the time of planning a large educational park, Roman Catholic educators are provided the opportunity of buying an adjoining plot of land and constructing a new facility of their own. As long as the land price is consistent with its true value, no constitutional infringements appear to be involved. The new parochial facility need only concentrate on housing courses directly needed for "moral training." Parochial pupils would be free as individuals, not as separated groups, to cross the park's grass, not urban streets, and attend physical education, science, and other public school courses when they fit their particular schedules. The Vermont Plan offers construction and operating savings to hard-pressed parochial systems; and it offers a greater race and class student balance to hard-pressed public systems.

Cost efficiency, educational innovations, more individualized instruction, wider course offerings, special facilities, and coordination with universities and parochial schools—all of these advantages of the well-designed metropolitan park are features that parents, white and Negro, would welcome in the schools of tomorrow. This is politically critical, for desegregation efforts of the past have seldom come as intrinsic parts of a larger package promising an across-the-board improvement in education for *all* children.

In addition to the natural resistance to change, four major objections have been raised to the park concept: (1) excessive capital costs; (2) the phasing-out of existing schools; (3) the problem of impersonalization in the large complexes; and (4) the loss of neighborhood interest and involvement in the school. Each is a serious objection and deserves comment.

The park *is* expensive, and major Federal funding is necessary. Furthermore, mistakes in design and location could be disastrous. A park is an enormous commitment of resources, and, if poorly conceived, it could stand for years as a major mistake in planning. This is precisely what would happen if parks were operated totally within central city systems, for demographic projections prove the folly of building parks for a single central city system as a desegregation device. It is for this reason that the parks of the future must be *metropolitan* in character.

Present schools are expensive, too, and raise the problem of phasing out existing facilities. For many urban districts this is not a problem; they already have overutilized schools with double shifts and rising enrollments or old schools long past their usefulness. But some urban districts have many new schools and would be hesitant to join a park consortium. The program, however, is a long-term one. Hopefully, by the early 1970's most of the nation's leading metropolitan areas would boast one or more parks; these in turn could serve as models for completing the park rings in the decade. Moreover, elementary and secondary student enrollments will rise rapidly: from 48.4 million in 1964 to a projected 54.9 million in 1974 and 66 million in the fateful year of 1984. Metropolitan parks, then, could be phased in as older facilities are phased out and enrollments swiftly rise.

Such a process would be ideal nationally, but there will be special problems in localities with "planned *de facto* school segregation." These are cities which in recent years have purposely built new schools in the heart of their Negro ghettos in order to maximize racial separation. If racial progress is to be made in these cities, recent structures will have to be converted to new uses—perhaps, to much-needed community centers.

The third objection to parks centers upon the impersonalization of organizational bigness—"the Kafka problem." Indeed, much of the park's description—15,000 students, a staff approaching 1,000, the latest electronic equipment—has a frightening Kafka ring; and one can easily imagine how an ill-designed park could justify these fears. But such a prospect is not inherent in the park plan; nor is bigness a park problem alone, for many of today's huge urban high schools accommodate many thousands of students in a single unit and arouse the same uneasiness. In fact, imaginatively-designed parks could act to counter the urban trend toward ever-larger public school units. *Smaller* schools at each level can be economically built as units within the park; and careful planning can afford a reasonable degree of privacy for each unit while still providing access to the shared facilities of the park.

Some critics are particularly concerned about the park's loss of neighborhood interest and involvement. The criticism assumes that most urban public schools today are neighborhood-based, and that they generate considerable neighborhood involvement. Serious doubts can be raised about both assumptions; we may well be worrying about the loss of something already lost. In any event, there is no evidence to indicate that only a neighborhood-based school can generate parental concern, or that a metropolitan park could not duplicate this feat, or that there is a close and negative association between the size of the attendance area and involvement.

The criticism does raise an important planning issue: How can the park be initiated and planned to heighten parental and community interest? Certainly, the special facilities, the university liaison, and cooperation with parochial schools could help generate community pride and interest. So could smaller schools and a park school board of parents with wide authority short of taxing power. Furthermore, widespread use of the park for adult education, community affairs, etc., would also contribute to public involvement; indeed, the special facilities of the park lend themselves to such adult use more readily than the typical school today.

Finally, one might ask how such a metropolitan educational park plan fits with other such widely-discussed possibilities as "decentralization" and "community schools." First, it should be noted that decentralization and community control are typically advanced either apart from integration considerations or as outright alternatives to integration. "The Bundy Report" for New York City, for instance, could well lead to racially-homogeneous districts that would institutionalize racial segregation for generations to come. Yet, there is an obvious need in such large and unwieldy systems as New York and Chicago to decentralize authority, as well as a general need to increase parental and community involvement in public education.

Similar to compensatory education, however, these possibilities acquire force and meaning when they *accompany* the drive for integration rather than substitute for it. Thus, effective decentralization need not take the form of isolated social class or racial islands, but should assume the metropolitan pie-slice shapes described earlier as ideal attendance areas for educational parks. New York City's schools *could* be organized along the lines suggested by "The Bundy Report" in such a way as to help rather than hinder integration.

In summary, then, those who say there is nothing we can do about the educational segregation of our major cities are fortunately wrong. This is not to say that desegregation progress will be easy, or even that we will do what is necessary to achieve such progress. But it is to say that it potentially *can* be done for a significant number of urban Americans, white and Negro.

EDUCATION IN THE SEVENTIES AND EIGHTIES

Neil Postman, Professor of English Education and Director, Program in Communications, New York University, New York, N.Y.

(1) Federal money should be made available for experimental programs at all levels of education. By "experimental" I mean learning environments based on entirely different assumptions from those of most schools, e.g. the street academies, Harlem Prep, the Parkway School, the First Street School, etc. Someone like John Holt, Herbert Kohl, or Charles Weingartner should be asked to direct the distribution of funds. Conventional USOE people are simply not smart enough to do this job.

At present, it is very hard for really innovative people in education to obtain government funding for their ideas. They must go to private foundations, since government money seems available for the "standard-brand" ideas. This is bad.

(2) Government funds ought to be made available to school systems for the purchase of modern media of communications. Just as we now believe that every student ought to be provided with textbooks, we need to provide, in the future, every student with still-cameras, 8mm. cameras, tape casettes, etc. We will need to cultivate "multi-media literacy" in every student and this will be difficult if the equipment is not available.

(3) We need to establish a Bill of Rights for students. Bear in mind that education is presently a legal requirement; and it is an outrage that students are forced to yield most of the rights that our Constitution grants to any American citizen. If your committee could produce such a Bill of Rights, it might have a beneficial impact on many school systems.

(4) The government might sponsor and fund a conference to be held twice a year which would be organized and attended by students at all levels of education. Its purpose would be to offer criticism and evaluation of the schooling process. A similar conference for the same purpose might be sponsored for dropouts. From such conferences we may get more good ideas for the future than anything else I can think of.

(5) Establish an Act (like the Fulbright Act) which would send high school students to study in other countries whose foreign policy sharply differs from our own. If we can get the young of the world together, maybe they will not act like such fools when they grow up. Incidentally, we might call this group the Education Corps.

(6) For similar reasons to Suggestion 5, the government ought to subsidize the purchase of materials (texts, films, magazines, etc.) from other countries and cultures. If such funds were available, schools would be encouraged to use these materials and therefore help to give their students a wider perspective of the world than they presently have.

(7) There ought to be a subsidy for professionals in various fields who would be willing to come into teaching. At least some sort of initial financial inducement ought to be made available to ex-Congressmen, writers, advertising men, broadcasters, mechanics, bartenders, etc., so that they could afford to bring their experience and expertise to young people.

(8) Someone ought to give consideration to establishing a cabinet post which concerns itself with language pollution. The Secretary of Language Pollution and his staff would monitor the verbal garbage of other government agencies and, in fact, all bureaucratic systems. This group could publish a monthly document which analyzes, criticizes, and evaluates the jargon, cliches, distortions, abstractions, etc., of not only the various government departments and officials, but the modern media of communication.

EDUCATION NEEDS FOR THE SEVENTIES—AN INDEPENDENT SCHOOL VIEW

Cary Potter, President, National Association of Independent Schools, Boston, Mass.

The National Association of Independent Schools is a voluntary membership Association, incorporated not for profit; its purpose is to serve the independent secondary and elementary member schools, of which there are approximately 770, enrolling about 230,000 students, and to assist them in turn to serve American education and our society. The schools are diverse in their purpose and educational philosophy, and are organized primarily in nonprofit independent entities governed by a Board of Trustees, with some of them being in varying degrees church related, while many are secular in their structure. Some of the schools are new; many go back 50 or a hundred years; some predate the founding of the Republic, and are among the oldest institutions in the land. Though its number is not large, this segment of American education has much to say today, as it has throughout our past, in support of the principles of diversity and pluralism which have characterized the educational history of the country.

We recognize that in considering the topic of these hearings, "Elementary and Secondary Education Needs for the Seventies," the Committee must be concerned in a major way with the needs of public education, and we respect and support that concern, for it goes without saying that an effective system of public education which will meet the needs of a majority of the young people of the country is more important today than it has ever been. But to the specific needs of public education we shall not address these remarks in the belief that such needs will have been fully presented by others whose knowledge qualifies them to speak to that question. Accordingly, what follows is directed at the needs of nonpublic elementary and secondary education as we see them and to the needs of the schools that are typical of this Association's membership.

1. *Recognition of nonpublic education.*—As a first priority for the 1970's for nonpublic elementary and secondary education, I would stress the need for the Federal government in both legislative and administrative branches, to recognize the nonpublic sector as a legitimate, well established, productive part of the educational resources of the nation. The fact that the Subcommittee has provided in these hearing an opportunity for nonpublic schools to express their views is welcome evidence of the fact that this recognition is growing. Unfortunately, it has been true for too long a time that much of the legislation at the Federal level and nearly all the administrative machinery of the Federal government have tended to treat nonpublic education at the school level as if it were outside the pale. It has taken intensive special pleading in most cases to get Federal legislation which was designed in the first instance to strengthen the general educational resources to include within its purview the nonpublic schools, their teachers, and their programs. As an illustration, it was not until several years after the National Defense Education Act had been in operation, and renewed at least once, that it was amended to make it possible for teachers in nonpublic schools to benefit from the fellowship and institute programs in the subject matter areas which the Act was specifically designed to strengthen.

The U.S. Office of Education, though presumably concerned with all education in the country, has never been structured to serve effectively the nonpublic sector, even in its most fundamental function of collecting the essential basic statistical data. For something like 15 years between 1947–48 and 1962–63, there were no statistics collected or published except estimates, and what has been done since has been occasional and often dated, largely because the U.S. Office has not had the funds or the time to do it, or the conviction that it was a regular on-going part of its job. Because of this lack, coupled with the fact that there has been no bureau, section, division, or whatever in the U.S. Office over the years to make it its business to know what the nonpublic sector consisted of, what its needs were, or what its potential contribution to educational problems was, it has been unable to serve effectively either the public in its need to know about the nonpublic schools or the schools themselves.

I would say, therefore, that the prime need for nonpublic elementary and secondary education in the seventies and beyond, insofar as the Federal government is concerned, is to make it entirely clear that it accepts nonpublic elementary and secondary education as a part of the educational fabric of the nation, as it clearly does at the higher education level, and then to provide the necessary machinery in the Government's principal agency, the U.S. Office of Education. This will not require large amounts of money, but it will require a fairly high level post with necessary supporting personnel. Such an office would provide a regular point of contact, and a resource for the public and the schools, and an essential channel of communication for the Congress as well as the schools.

2. *Federal aid.*—The second major area of interest is the question of public aid to nonpublic schools. Our Association's basic position on this question may be summarized as follows: (1) The fact of rapidly rising costs, growing in part from the increasing complexity and higher standards of education and in part from inflation, a fact recognized by growing support of public education by the Federal government, has put heavy financial pressure on nonpublic schools and their traditional sources of support, a situation very similar to that confronted by private higher education in recent years. (2) One possible source of additional support is the State and Federal government, whose support can be justified on the grounds that, without it, the established concept of freedom of choice in education might well become meaningless. Even from a purely economic standpoint, some degree of compensatory public aid to nonpublic schools would appear desirable to avoid the increased tax burden which would result in many urban areas if the public schools had to absorb the pupils now in nonpublic schools. (3) Certain forms of public aid to nonpublic schools have already been established by the States and by Congress (e.g., exemption from certain property taxes, tax deductibility for charitable gifts to nonprofit educational institutions, loaning of books, certain provisions of the ESEA of 1965, and of various forms of aid to higher education) and have thus far been upheld by the U.S. Supreme Court. (4) The Association assumes therefore that certain forms of public aid to nonpublic schools are both constitutional and in the public interest, and it will support further aid legislation which gives promise of strengthening and improving nonpublic schools without impairing their essential independence.

We are aware of the complicated and sensitive nature of the task which the Subcommittee faces in devising Federal legislation to meet nonpublic school needs. These difficulties arise obviously out of the not-always-clear nature of the constitutional issue as well as from the fact that the situation of the nonpublic schools varies from State to State, that what may be effective in States of high urban populations or with large numbers of nonpublic schools would be less effective in other areas, and that the ultimate effects of public aid in any significant amounts in broad programs are as yet unknown. The experimentation in public aid that is going on in many States at this time is certainly of interest and may well provide sufficient experience to indicate the appropriate directions that general Federal aid should take. In other words, it is our view that there is a need for more "laboratory" experience of the kinds being experimented with in the States, and until that experience is clearer we are not in a position to recommend a general program of aid, the effects of which are to a considerable extent unknown.

At the same time, we believe several steps could be taken through amendment to make use of existing legislation to provide important acceptable assistance to nonpublic schools, and we would urge the review of a number of existing programs to see how nonpublic schools might share in the kinds of aid already available to both higher education and public elementary and secondary education. To illustrate, nonpublic schools are in a position to provide, and need assistance for, various kinds of programs for the further training of teachers and administrators, and some of these programs would be of value for public school personnel, as well, but at the present time nonpublic schools are ineligible for funds of this kind unless they work through a university, a process which is often complicated and unnecessarily expensive. Many nonpublic schools are making major efforts to provide opportunities for larger numbers of disadvantaged students from minority groups, but opportunity grants and loan programs are limited to higher education. Similarly, such schools are operating special summer programs, some of them with year-round components, aimed specifically at inner-city children, often in various kinds of partnership with public schools, but to whatever extent government funds may be available, they must come through the public school agencies, a process which is often cumbersome, if it is workable at all.

One law which has been on the books for a good while but has never been effectively used is Title III of NDEA whereby nonpublic schools could borrow Federal funds for the remodeling or alteration and equipping of certain facilities. While the intent was of interest, the fact that the purposes were so hedged in with limitations, and the loans were of such short duration, and at interest rates that offered no substantial incentive, meant the funds were seldom used, and the purposes of the Act therefore inadequately carried out. Yet it is clear that similar programs more favorably set up at the college level have been widely used. The possibilities of revising this program to provide important aid for improvement of facilities need further exploration.

In conclusion, then, we would urge the Subcommittee first to consider authorizing in the U.S. Office of Education an office of nonpublic education, not as a special pleader but as a knowledgeable point of reference for the government, for the public, and for the schools; and second, to review existing legislation providing aid to public and higher education with an eye to adapting various portions of it to include the nonpublic and elementary and secondary schools. We believe that the main support of nonpublic elementary and secondary education must continue to come from those who choose to utilize its services and from voluntary support from the private sector, as it has in the past; but we believe also that a categorical approach to aid from the Federal government for a variety of specific programs can be undertaken in a way which will satisfy both the constitution and the public interest, at the same time making it possible for the schools to serve society in an increasingly effective way.

Thank you again for giving us this opportunity to participate in your deliberations.

EDUCATION IN THE SEVENTIES

Beatrice Orr Pressley, Assistant Professor, University of Hartford, Hartford, Conn.

Education in the seventies—innovative, exciting, relevant, or more of the same but with new and more attractive labels? To begin now to rethink the goals and practices of our educational system will help to insure that a meaningful educational experience is proposed and provided for each child in the country.

We are surrounded by evidence of both the successes and failures of the American educational system and to dwell only on the weaknesses would be unsound. Certainly, however, it is important to project and predict into the future so that more success can be assured. We prophesy in a world still in the making. While we forecast on the thin ice of partial knowledge, we must plan ahead if we are to manage our affairs with any rationality. We are committed to the strategy of trying to study trends, anticipate needs, realize limits, and prepare long-term programs to meet and develop in the future. In a world changing at an accelerated rate, it is increasingly necessary to plan educational programs with enough foresight to be reasonably certain that those leaving school will not be obsolete before they finish their working lives.

Education is part of the whole fabric of the culture and not the exclusive property of the school. Major contributions to education in the form of contrived learning experiences are made by many institutions outside of school buildings. Thus, the time spent in schools must make maximal and efficient use of the resources available.

A concise encapsulation of the best that the schools can do is stated by John Gardner in his book, *Self-Renewal:* "What we must reach for is a conception of perpetual self-discovery, perpetual reshaping to realize one's best self, to be the person one could be. It is the sacred obligation of the schools and colleges to instill in their students the attitudes toward growth and learning and creativity which will in turn shape the society." The responsibilities for the schools in the seventies are emerging. The trends are not clear-cut and guidelines must take into consideration complex, interrelated ideas, and interests. A study of our present society would necessitate setting priorities for development of educational programs. Those considered by the author to be most relevant will be discussed in terms of the implications for the seventies.

1. The goals of learning and methods by which they are achieved may be determined by the learner himself. He can assume more and more responsibility for establishment of goals and methods of his learning (mutually under the direction of adults). Children in the seventies will have considerable latitude in the matter of their own education. The role of the teacher will be in adequate preparation of instruction by providing background material, in individualizing experiences for the child, and redirecting human behavior into new and more productive channels.

2. Educational goals will be stated more meaningfully so that they can be evaluated and the products will be observable to someone other than the learner. Schools will be held accountable for the educational objectives for which they claim responsibility. Care will have to be taken, however, so that not only those behaviors which are most easily observable or which occur with the most speed are included as goals (objectivity must not become a fetish). Research investigation will include concern about persons' subjective experiences as well. Interest in the individual, exceptional, and unpredictable as well as the regular, universal, and conforming will be studied.

3. Schools will take responsibility to a greater degree for continuously seeking new knowledge and will devise means of converting it to practical uses. Research projects to evaluate what is relevant to the educational enterprise, to adapt new information and techniques to practical application, and to disseminate these to the educational

community will be a major priority. The schools will support the search for more effective answers to the mounting problems of education, the individual, and the nation's ills.

4. Education will be concerned to a far greater extent in the enrichment, extension, and meaningfulness of human life. The importance of making good use and conservation of human resources will be included in the persistent demand for excellence in education. More effective positive efforts will be made in identification and development of human potential. To assure an intelligent, self-governing citizenry, education will be designed to develop to the fullest the potentialities of the individual members.

5. The task of school personnel will be to create conditions which are conducive to actualizing; minimizing the situations which inhibit growth. Education should be anxiety reducing rather than anxiety producing. The aim of education will be to teach young people to learn and to develop the learning skills and attitudes essential to self-propelled learning. Educational practice will not be predicated on a conception of human beings as static or inert. Schools will view students as growing, dynamic, and creative. Schools will be places where something happens *with* children rather than places where something is done *to* children.

6. At the present time the school program is concerned with two roles or functions—instruction and guidance—and the school performs its educational role through these two closely interrelated activities. Traditionally, both subject matter and methods of instruction in our schools have been keyed to the imparting of facts and principles already known. In the next decade the school guidance program will be more intimately a part of the total effort of the school; it will not be a "special service." Education and guidance will merge so that the entire school enterprise will be guidance-oriented—education to liberate, not indoctrinate, the individual.

7. There will be continued moves to put the public schools on a competing basis, i.e., providing independent alternatives for the system which presently exists. The civil rights movement has given impetus to the belief that more proposals to have school programs both within the system and outside the system are necessary. The goal of competition for effecting change will be the radical restructuring of our schools to stimulate rivalry as a means of educational change. The Federal government is already subsidizing private industry and private educational agencies and is fostering competition between them and the established public schools. Both the concern for better education *and the concern for greater financial profit* will stimulate more private educational corporations to spring up.

8. There will be more research on teaching (distinct from research on learning). While study of learning is well established and relatively mature, research on teaching is weak. The behaviors and characteristics of teachers are important; research is needed on teacher effectiveness. There is a lack of an adequate, concrete, objective, universal criterion for teaching ability. Rating scales and personality tests have not proved useful. We have an arbitrary definition of good teaching. Attempts will be made to identify reliably and to generalize that such a criterion, largely a matter of values, can be established by the scientific method alone. To the present day the ambitious attempts to

predict teacher effectiveness have shown no clear conclusions. The technical skills approach—specific instructional techniques and procedures that a teacher may use in the classroom—will gain more favor. These represent an analysis of the teaching process into relatively discrete components that can be used in different combinations in the continuous flow of the teacher's performance. Efforts to analyze teaching into limited, well-defined components that can be practiced, evaluated, predicted, contrasted, and understood in a way that has been impossible in larger periods of time will be developed to a greater degree in the continuous effort to improve the education of American teachers.

9. The current application of computers related to information-processing techniques in our society has been used relatively little in education. There is great potential in computer technology for educational administration and management. The most important aspect of computerized instructional devices is for individualized instruction, in a wide variety of subject matters which may be offered students of all ages. The technology is already available, though it will be improving. There is a need for operational experience in precisely how this can best be done. The computer-assisted instruction will allow educators to get hard data to use as a basis for more serious scientific investigation and evaluation of any given instructional program.

10. A major development which will continue to influence the schools is the awakening to the importance of formalized learning experiences for the young child. As shown by Benjamin Bloom, one-half of a child's intellectual development takes place before the school ever sees him. Greater efforts will be made in the seventies to develop policies and practices which will extend the public schools downward. The significance of a facilitating environment for maximal development of children emphasizes the necessity of public school education to take responsibility in this realm. We presently spend billions of dollars for remedial and rehabilitory work and drastic measures must be made to change the trend and redirect efforts toward preventive measures. There is great promise for development of innovative and potentially influential early childhood programs not only limited to what takes place in school buildings but also in the home by use of mass media. "Sesame Street" has shown that children can be entertained and educated by planned learning experiences on television. The prognosis for more knowledgeable citizenry is great if educators can succeed in developing sound programs for young children. The growing recognition of the importance of the first five years in shaping human lives should lead to extensive study on the purpose, methods, and programs most appropriate for the establishment of programs which will make use of this information.

11. There will be continued struggle for control of public education. A major concern for teachers and laymen will be who will have ultimate responsibility for running the schools. Educational policy has, in the past, been largely in the domain of the local school board. The growth of teacher professionalism on the one hand and the movement toward self-determination for minorities on the other is likely to lead to greater conflicts for determination of power and control. Confrontations are inevitable as teachers and local community groups become more adamant in their demands relating to the functioning of the schools.

12. Public education has discovered the emotions. In the next decade schooling will not be viewed merely as a set body of learnings to be mastered or prescribed tasks that must be completed by a specific number of steps in a predetermined order. It will be seen as a means of enriching living for young people during a specified period in their lives. Children will be helped to live more effectively in the present in such a way that they will be more able to meet demands of later periods of their life. There is a trend toward emphasizing programs which build curricular and teaching methodology which will be directed at human objectives. The importance of feelings is combined with academic education aimed at the student's most important concerns. School can explicitly teach the students how to sort out and guide their psychological growth, increase desire to achieve, and handle their aggressive instincts.

Recognition is made that the world is in a state of social and moral turmoil. Society is as responsible for the psychological well being of each of its members as is the individual. The schools will be equally concerned that the students are human beings with feelings as well as intellect. Studies have shown academic achievement is related to self concept and interest in school. It would be folly for the schools to ignore these findings. Perhaps expectations of what schools "are for" must be changed. The schools will have to acknowledge their impact on the students' values, attitudes, and behaviors. Schools overstate the outcomes which they can influence and have an obligation to clarify for students the meaning of their experiences of life in their society. Children must learn how they are valuable since self esteem is closely related to clarification of experience. If people do not understand clearly what they have done and what has happened to them they have no true basis for self esteem. People must learn to respond to their own, rather than only others' expectations.

Thus a humanistic approach—one not attempting to render man predictable to and controlled by someone else—will come to the fore. This approach will aim at understanding and determining how variables function in order that a man might be liberated. Descriptions of man will not be based on those of animals because this is inadequate. People will be aided in growing and evolving. The affective domain, which contains objectives concerned with interest, attitudes, appreciations, values, and emotional biases, will be emphasized. The cognitive and affective realms will be integrated within the curriculum and individual growth in both areas will be necessary. The child will be helped to develop greater understanding of how his feelings and attitudes affect decisions and behavior. He will study what kind of person to be—how to relate to other people, how to respond to social institutions. While schools have assisted in learning to gather data and consider alternatives when making some decisions, up to this point they have not helped much in answering questions of "who am I," "how can I determine my own worth," "what processes am I utilizing when I interact with others." Attention will be on the learner and education will not be dehumanizing. The ultimate justification of an educational program must be in its ability to enhance the quality of individual lives.

While it is dangerous to generalize about something as large and complex and presumably diverse as schools in the United States, it is important to look at the total enterprise in order to make adjustments in the various parts. The question is no longer whether we shall have a measure of Federal control in education but how this control will be exercised and kept sufficiently responsive to the public.

As they grow larger, many of our school systems are facing financial crises. The responsibilities for such problems are basically those of the States and local governments. The Federal role should be one which fundamentally is concerned with developing more innovative programs, strengthening those which now exist, filling in the gaps, and broadening the educational scope rather than underwriting areas in which local governments are experiencing financial strain. It is not the Federal government's responsibility to compensate for inaction, poor planning, or incompetence of individual school systems. There must be individual sense of involvement in these financial problems at local and State levels. While the traditional local taxing structure is unsound, it is not a Federal obligation to bind the wound. It cannot be a crutch for the inept. Historically, our citizens have made a commitment to education; they cannot neglect their duties to this purpose of excellence in education.

Federal aid to education has made many educators greedy. We must move from "let's get government money" to "let's decide what we need or don't do well now that we could do better" and then "how can we support it." Money is not a panacea for all educational ills. It can, in fact, compound the problem. Better ways of monitoring and auditing the monies provided by Federal agencies must be devised. Obviously, the goal is not to create a *nouveau riche* of administrators and college professor consultants.

Surveying needs and then placing priorities would be a first step in determination of how Federal monies might best be spent. Assurance is needed that moneys allocation *directly* affect the children as opposed to being eaten up in administrative costs. The only justification for expenditures of Federal money to educational projects is that children's needs will be better met than they are now.

EDUCATION IN THE 1970'S: A VIEW FROM THE DEEP SOUTH

Julian D. Prince, Superintendent, McComb Municipal Separate School District, McComb, Miss.

The Educational Reality of the Southern Sixties

Unquestionably, education in the deep South during the 1970's will represent an area where substantive modifications of previously existing educational programs will occur, as contrasted to the educational programs which existed in this region during the decade of the sixties.

The question which must be faced squarely is whether this change will be beneficial to the education program of the region.

The sixties represented an age of continually increasing trauma for deep South school districts. Immense amounts of energy and dollars were consumed as Federal, State and Local levels attempted quickly either to implement massive pupil desegregation or to slow, or stop completely, the march of this process—depending upon one's viewpoint, and circumstances, as to the wisdom of such actions.

The desire of southern whites to move to desegregation at a slower pace than desired by civil rights forces resulted in the October 29, 1969, Supreme Court decision's bursting like a bomb on many communities improperly prepared for the reality of total desegregation. Public school education in the South entered the decade of the seventies with public confidence in public schools shaken to an unprecedented degree.

Many school districts, where a heavy preponderance of blacks were enrolled, turned to a virtually black school population by mid-semester of 1970, when many school districts became racially unitary. Unfortunately, the minuscule gains which had been made in many of these districts in improved human relations, as "tokenism" advanced since 1954, were wiped out. Regardless of the size of these gains, they were valuable, but are now lost. The whites in such communities moved into hastily improvised private school structures to continue segregated education. Again, the children of these districts were segregated totally, as opposed to partially desegregated circumstances which had existed before terminal court action was finally taken. "Integrate now" caused an emotional step back into the 1950's for many southern communities.

In other school districts, modifications of procedures which required blacks to move into a unitary system in predominantly white schools resulted in disaffection to an equal degree among the black community. Final realization came that the heritage of black school and community was to be largely abandoned as blacks became a part of the overall community.

Why has this occurred? Fairness would call for Federal, State and Local authorities to share the blame equally.

At the Federal level, false starts, incorrect assumptions, a changing political climate, rapidly rotating administrative staffs, and vacillating policy allowed for little Federal consistency in dealing with the educational realities of southern public schools. As time passed, the process of adjusting bodies by skin color increasingly overwhelmed Federal officials' concern. Community tranquility became of little consequence.

In areas where student bodies were predominantly black, elected school officials (superintendents and school board members) recognized that political suicide lay in the public admission that eventually the schools would be desegregated totally. Their problem was simply this—to admit that the community needed to be prepared for total desegregation would assure their replacement by a more conservative policy-making body.

Isolated incidents did exist where farsighted school administrators and dedicated boards of trustees, in cooperation with Federal officials, provided for a smooth development of a unitary school system.

How was it that in some areas desegregation became a reality with relatively little damage, while in other areas chaos reigned? Our opinion is that a common characteristic of these school districts was the identification and pursuit of clear-cut educational goals on which the community could agree.

Reviewing the sixties, one is compelled to ask if the South will replicate the process which eventually assigns a rather dismal role to the public school, characteristic of many communities across the nation. Must it be that where Negroes represent a substantial percentage of the district's student body, the schools become an anathema to the middle-class white?

Obviously, public school education has lost credibility in the eyes of both the white middle-class population and the Negro ghetto family. Public schools are now challenged as to purpose and role by a large portion of our society.

The question for the South is whether credibility can be maintained, or regained, through some manipulation of the factors which have major impact on the quality of the educational program offered. For the sake of argumentation, let us assume that this can be achieved.

Now let us honestly investigate the factors which have kept southern education on a "low limb" in the American education hierarchy, and then let us propose remedial action which may accomplish the desired task of regaining credibility.

RATIONALE

This paper represents an effort to encourage the Federal government to fund one or more experimental State research and development (R & D) centers to exert positive educational leadership on the public schools of the South. These educational R & D organizations could operate to bring active and detailed research and development techniques to bear on specific State-wide problems. (Although these statements may be applicable to all of the deep South, our discussion will focus on the State of Mississippi.)

INTRODUCTION

During the 1969–70 school year, the schools of the State of Mississippi are facing an unusually severe crisis. The crisis was precipitated by Federal court requirement for immediate total racial desegregation, but in all fairness cannot be laid wholly at the feet of Federal agencies or courts.

This crisis is a real one, which would not have been as severe as it is if the leaders of many communities had effectively utilized the time since the Supreme Court decision of 1954 to prepare for desegregated schools.

The blunt facts are that much of the expenditure of intellectual effort by the leadership of Mississippi public schools was devoted to maintaining the status quo rather than to adjusting to the realities of the Supreme Court's Brown decision of 1954 or to the laws passed by the United States Congress in 1964 and interpreted by the courts since that time. As a consequence, the average Mississippi community leadership did little to prepare the adult patrons, the teachers, or the students for the reality of total desegregation.

The feared collision of cultural differences in many of the public schools of the State did, in fact, result in the white community's physical and emotional withdrawal from many public schools. The consequences of such withdrawal will be dire and long lasting (with public school education already of minimal quality in many areas of the

State). Active leadership must be provided to alleviate the circumstances which will exist for the next several years.

An educational leadership vacuum is quite characteristic of the rural South (or for that matter, of the nation as a whole). This lack of cohesive, effective leadership was certainly a factor in the loss of public confidence in public education. This "collapse of credibility" has already produced decreased desire to support southern public education properly. Tragically, there are few forces available to restore confidence in public schools in troubled areas.

Mississippi public school education has long been pointed to as the doormat of American public school education (with a few notable exceptions where local support of education has been exemplary through the years). Any further decrease in the quality of public school education in the State is unthinkable, but based on observable trends, this will occur.

Little will change the present course of events in Mississippi in the early 1970's. Hope for solid improvement in the public schools of the State, regrettably, must be projected for future years. This writer believes that an educationally oriented research and development center could accelerate this process by providing educational leadership of a unique type at the State level, when sufficient broad-based State-level leadership cannot come immediately from other sources.

THE EDUCATIONAL LEADERSHIP VACUUM

State-level leadership for education in most deep South States resides in four major power bases, the legislature, the State department of education, the professional organizations, and the institutions of higher learning. Circumstances deny the educational agencies mentioned a clearly defined opportunity to provide coordinated educational leadership to solve the pressing problems which face the State's educationally distressed areas.

The legislature is a body which responds to pressure and emotional issues, rather than leading; issues of the day stir legislative action.

The State department of education is concerned with its primary legal function—maintenance of educational standards as established both by the legislature and accepted professional practices. Its approach is historical; education is governed by what has been rather than what could be.

Organizations representing the professional educational leadership are currently vying for a power position in professional leadership and are virtually unable to be concerned with the problems of education, other than the in-house problems of adjustments as they relate to the teaching profession.

The colleges (institutions of higher learning) have no clear-cut policy in relation to development of overall public school education in the State. If any exists, such policy would be to assure that the public schools produce adequately trained material for college student bodies. Unfortunately, collegiate institutions tend to ignore the noncollege-bound human resource. In other leadership roles, each institution jealously guards its own area of the State while tending to conceal its developmental ideas from the eyes of other State peer institutions.

Regardless of public comment to the contrary, existing organizations concerned with State educational leadership are inclined to maintain the status quo. They do expect to improve the overall quality of the State educational program, but they do so by exerting influence on already existing institutional practices. One could not overstate the case by pointing out that existing educational patterns need to be radically modified in southern public schools. Organizations better suited to maintain the status quo, of necessity, will be unable effectively to fulfill their leadership role and, as a result, many school districts who look to the usual sources for educational leadership can well be left as educationally rudderless ships in a tempestuous sea as relates to needed change in educational practices to adjust to the "unitary" role.

Mississippi, or any state, can ill afford the luxury of rudderless school districts.

Further compounding the leadership problem, the administrative personnel heading the Local school district often lack an adequate educational background which would allow them fully to comprehend the nature of the learning process. Administrators often do not comprehend the subtle difference between school operation and an effective program of education.

A sad statistic is that the administrative offices of many of the public schools in any State are staffed with individuals who are strong in discipline but deficient in educational theories. The educational background which earns one the necessary plumber's license to become a school administrator is often inadequate. This background, often allied with a consuming interest in fishing, hunting, and athletics, does not admirably suit one to understand the intricacies of how children learn.

Unquestionably, the administrative staffs of the schools of the State of Mississippi are sincere in their desire to operate good schools. However, understanding how to operate a school in the manner that schools have traditionally been operated in this State and understanding how to educate children in the traumatic times which face us in the 1970's are not necessarily compatible. Documented evidence would show that even under more tranquil times the educational level of the average southern school district was quite low, despite the existence of a public school system which was available to all—though segregated.

Adding to the problems that the administrator faces is often one of an inadequately educated board of trustees. Many elected school boards in the South are peopled by members who have very little education beyond the secondary level. (One school board of our personal knowledge has as its highest qualified member an individual with a high school diploma. The other members of the board do not reach this educational level.)

Lack of understanding, on many levels, of what actually occurs in learning can, and has, blocked development of adequate educational programs.

WHAT HOPE EXISTS?

Without question, the desire for better schools exists in all southern schools districts, regardless of the training background of the administrator or the board of trustees. Such leaders inquestionably are resistant to educational change to varying degrees. Most eagerly seek ways of changing to better methods of educating children.

A pressing southern school need is for adequate applied leadership in developing better learning programs where a desire for improved programs exists. An active R & D center can provide such leadership.

THE RESEARCH AND DEVELOPMENT CENTERS AS EDUCATIONAL CHANGE AGENTS

We propose that R & D centers, working in concert with other established State agencies, provide leadership by offering assistance to troubled school districts through whatever resources can be brought to bear on any situation which presents itself.

These R & D centers should work cooperatively with and through the four leadership agencies listed above, and by this means, assist these agencies to understand better the positive leadership role they can exert in education.

SOME PHILOSOPHICAL COMMENTS ON CHANGE

Mississippi moves best by suasion—following leaders and institutions close to them. To capitalize on this fact, research and development efforts in the improvement of education could best be carried out through existing institutions, guided and funded by State-level agencies, which can be fairly free of Local pressures resistant to needed educational change.

All innovative activity should be carried on with the approval of the appropriate State agencies, Local boards of trustees, the Local patrons, and most importantly, the faculty members of the involved institutions. With an adequate Local support base, the R & D institution could then operate in a manner which would beneficially modify the existing educational structure in a given community, and at the same time serve as a buffer for the Local school administration in public relations.

We cannot overemphasize that changes wrought in southern education must have the support of the Local populace, both black and white. Southerners are as conservative as Vermonters with a racial mix.

Regardless of the recent moves made for better educational opportunity by the black community (identified as civil rights protests), we must clearly realize that the majority of the black community is as conservative as are their white counterparts. In fact, a careful investigation of the beliefs of each group of black and white Mississippians who might oppose each other on any civil rights issue would leave both of them gasping in amazement at the body of Judeo-Christian and middle class ethic which they both hold in common.

Where possible, the changes brought in education must be of the type which can fit within the existing fiscal framework of the school districts once the funding or development agency withdraws from the scene. R & D efforts which cannot be carried on by the Local school districts at the removal of outside funding sources must be considered as failures, and the failures (as well as the successes) documented for further consideration.

IMPLEMENTING THE R & D EDUCATIONAL LEADERSHIP FUNCTION

Contacts can be made with existing educational leadership institutions to solicit assistance in "doing useful research and development activities for public school education." Offering the services of an R & D center to education (within the framework of existing agencies) must be the major thrust of all contacts—both public and private—as well as any publicity attendant to the R & D center's actively entering this field of endeavor.

R & D staff demands will depend upon the nature of the project actually undertaken. Hopefully, permanent staff could be limited to the functions of R & D administration and in-house research personnel of high caliber.

SOME SUGGESTED DIRECTIONS TO APPLY EFFORT

Goals must be both long-range and short-range, with major emphasis on the development of human resources.

A. Short-range goals:

1. The development of a computer (EDP) data base to determine the quality of the educational program which exists in any school district. Cost accounting, teacher salary, teacher preparation, the presence or absence of innovations, purchasing practices, or the relationship of the training of the administrator or the school board members to the quality of the educational program—as is measured by the educational level of the students on hand—could be undertaken. Computer software to accomplish this task already exists in Mississippi, developed by an ESEA Title III grant.

2. Better utilization of existing manpower training and adult education programs could be encouraged with research efforts applied to determine efficacy of those vocationally oriented programs which exist—or could exist. (We suspect little relation exists between real needs and training performed by many current vocational projects.)

3. The development of a "Quick Reaction Vocational Information System" (that is, a network or complex) to allow the manpower needs of industry to be filled better with the available human resources in the public schools. Such a "Quick Reaction" system would provide for information exchange between vocational training centers, R & D centers, the Agricultural and Industrial Board, the Employment Security Commission, the State Department of Education (its vocational division), senior colleges, junior colleges, and secondary schools of the State through the use of a computer manipulated matrix which would associate job need with training and available human resources.

4. Assisting troubled school districts with desegregation problems by such techniques as: a) locating knowledgeable consultants useful to the district, b) surveying existing educational programs to determine needed change, c) helping develop a public relations program which could maintain community support and confidence in the public school as an institution, d) designing innovative counseling and evaluative techniques suited to local needs.

5. Better utilization of ETV to bring America's best thinkers (by television techniques) to seminars for board leadership and school administrators. These seminars would be conducted by State colleges

in the various communities. Effort could be brought to bear on the State legislature to require such training of all board members on a regular basis.

B. Long-range goals could be:

1. Restructuring of adult vocational education programs through permissive Federal legislation when inadequacies of the current system can be demonstrated forcefully to the appropriate Federal authorities.

2. Modifying the structure of the public schools sufficiently to insure no dropouts (or force-outs); that is, arranging the school in such a manner that the schools *must* succeed with the education of a student, and maintaining adequate follow-up services to determine that schools *did* succeed.

3. Developing a system (consensus) whereby the efforts of the State departments of education, State colleges, professional organizations and the R & D center could constantly provide for unified State-wide educational leadership in an organized framework.

4. Constantly involving State agencies in new R & D programs in identified areas of need.

5. Developing techniques to identify and select a good quality of educational leadership from the ranks of classroom teachers and, if necessary, locating sources of funds available to higher institutions to train these persons through such practical programs as "intern" training.

6. Maintaining a continuous and concentrated emphasis upon education and the needs of education through communication channels. The need for quality education at all levels must be drummed into the public subconscious through newspaper, radio, and television coverage.

7. The establishment and maintenance of regional computer-assisted instruction programs using public domain CAI software to supplement inadequate classroom teachers.

SOME SPECIAL CONSIDERATIONS

One of the more severe problems facing public schools is that schools do not know exactly what their educational programs are accomplishing. In essence, we are running a factory and have little idea of what our product is or why we fail to achieve success with such a large percentage of the raw material.

Essential to the success of any R & D effort at the public level will be an adequate and manipulatable data base of pupil information, provisions for test scoring, and evaluation and rapid analysis of acquired data.

Such a data base (and analytical technology) already exists in the 17 Mississippi school districts served by the Southwest Mississippi Data Processing Center at McComb, Mississippi. An immense plus for any Mississippi R & D effort would be that we know that 17 school districts in Mississippi have a "mind set" to experiment with the nature of their educational program. These school districts represent 50,000 Mississippi school children. Virtually every facet of the work of these school districts is now on tape, stored in the data banks of the McComb-based SMDPC.

The McComb center, its allied schools, a vast pupil data base, and a vigorous R & D leadership program, with appropriate research documentation, would make a superb platform from which an immediate

Mississippi educational R & D effort could be launched to measure the value of currently existing educational programs in the State.

Theoretical R & D Program in Action in Cooperation With a School District

Initially, the leadership role of the R & D center would not involve a heavy financial outlay of funds. Any monies available could be considered as seed money.

Working procedures might be as follows:

1. Identification of school districts where severe problems exist. (Such problems might not necessarily concern racial unrest. One might find that active leadership within a given school district could desire substantial improvement in a substandard educational program.)
2. Identification of Local leadership, both at the school board and administrator level, which would allow good in-house working relationships with the new R & D center and other selected change agencies.
3. Identification of problem areas where changes could be instituted.
4. Selection of the appropriate State agency (or other agencies) to cooperate in the venture.
5. Determination of the resources within the school district which could be brought to bear toward the solutions of its problems.
6. The development of an action scheme which would include proposals for testing, research, evaluations, goals, and dissemination of findings to similar school districts.

Conclusions

An educational crisis exists in the deep South states, caused by a combination of current desegregation pressures and long-time inadequate educational leadership and planning.

An education-oriented R & D center could help alleviate educational problems by application of R & D techniques to existing educational institutions.

Such an experimental R & D center should be funded by the Federal government to enter the area of research and development in the common schools of the South. This program could well portend the development of quality public education by properly concentrating the development of new educational approaches in real educational settings.

Under such a framework, we may find that the traumatic changes in southern education in the late 1960's and early 1970's can eventually be beneficial to the education of the region as public education regains credibility lost with the inception of massive pupil desegregation.

THE STRUGGLE FOR CULTURAL DEMOCRACY IN THE AMERICAN PUBLIC SCHOOL[*]

Manuel Ramirez, III, Associate Professor of Psychology, Pitzer College of the Claremont Colleges, Claremont, Calif.

The signs which point to the issues which will occupy central importance in the American school system of the seventies are now visible:

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[*] The author would like to thank Professor Alfred Castañeda for his help on this paper.

ethnic studies programs are now part of the curriculum in colleges and universities, a growing ethnic awareness in junior and senior high school students has resulted in open expressions of dissatisfaction with the schools, and white ethnic groups are holding conferences on ethnic identity. These are the signs that in the next few years the movement for cultural democracy in America will achieve national recognition. The result will be demands that bicultural, bilingual programs be established for those ethnic groups which heretofore have been ostracized by the majority culture, i.e., those groups whose culture and language have been excluded from the curriculum of the schools. This will provide the greatest test of the capacity for flexibility and innovation in the American educational system; for this new philosophy brings with it not only the greatest challenge for change ever experienced by our system of education but also the demand for immediate change.

The backlash against the melting pot hypothesis and the policy of cultural exclusion which it fostered have long been overdue. It has had disastrous consequences for the attempts by members of many ethnic groups in America to achieve equality of opportunity. The Mexican-American is a good case point.

Ever since the end of the Mexican-American War of 1846, the people of Mexican descent in this country have been treated like a conquered people. Societal institutions of the Southwest, and particularly educational institutions, were altered to conform with Eastern or Midwestern models. Spanish was labeled an "undesirable" language and no longer accepted as one of the languages for instruction in the public schools. Furthermore, children who spoke Spanish were considered to have a "bilingual problem". This is noteworthy, particularly when children who spoke German or French were considered to be advantaged rather than disadvantaged. In other words, it was considered prestigious to be able to speak another language besides English, but not if one's second language was Spanish.

In addition, other than the very romantic "Spanish" culture and the vivid description of the Battle of the Alamo demonstrating how heartless and ruthless Mexicans can be, there was little, if any attempt made to include Mexican and Mexican-American contributions to the history of the Southwest in the curriculum of the schools. In many schools, even though it was well known that the primary language of many of the Chicano parents was Spanish, PTA meetings were conducted exclusively in English and messages sent home were only in English. Yet, the Chicano parent was described as uncooperative and disinterested in his child's education.

In the classroom, an all-out campaign was instituted to purge the Chicano student of a language which was considered to be "un-American." For example, in the high school I attended in South Texas, where 98 percent of the population is of Mexican descent, signs were posted throughout the building with the message, "Be a good American, speak English all the time." This policy is being followed to this day by many schools. In 1968, Bowie School in El Paso, Texas, that border city where Chicanos constitute some 40 percent of the population, detained Mexican-American children after school for speaking Spanish. This finding was brought to light during the hearings of the U.S. Civil Rights Commission in San Antonio, Texas, last year.

Perhaps even more damaging than suppression of the Spanish language are the inaccurate interpretations of the Chicano child's behavior made by educators who are not familiar with the values of the Mexican-American culture. Two years ago while I was conducting a study in California, a high school counselor told me very dejectedly that she felt sorry for the Mexican-American children at that school. She said, "The school is building a swimming pool and next year all students will be required to take swimming. We have observed that Mexican-American students, and especially the girls, are afraid to take showers after gym. I've tried to explain this behavior and the only thing I can figure out is this—the ancestors of these children probably had to cross the Rio Grande River and because this was probably a traumatic experience for them, they developed a fear of drowning, and this phobia has been transmitted genetically to these young people. That's why they are afraid of water."

Doing my best to hold back both laughter and feelings of anger, I proceeded to explain the importance of modesty in the Mexican-American culture and the fact that there is little in the experience of the Chicano child which prepares him for many of the activities in school including taking group showers. It staggers the imagination when one considers how many behaviors of Mexican-American children are being similarly misinterpreted and may eventually result in decisions which can determine their future in education. Along these same lines, there has also been a good deal of misinterpretation and misclassification when intelligence tests are utilized with these children. Even though several studies like the one by Jensen (1961) have consistently shown that the tests presently in use are not valid for Chicano children, results obtained with them are still used as criteria for placing these children in classes for the educationally retarded. Not only is it unfair to test these children with instruments standardized with children of mainstream America, but to make things worse many of these children are being tested in a language they do not understand.

The fallacy of using the melting pot hypothesis to create cultural exclusion in our schools is tragically reflected in the high dropout rates for Chicano children. The Report of the Governor's Committee on Public School Education in Texas submitted in 1968 reveals that 34 percent of Chicano children in the schools surveyed drop out before graduation from high school. Similar figures have been reported in other states of the Southwest. In most cases Mexican-Americans have the highest dropout rates and the lowest number of years of educational attainment of all the so-called disadvantaged ethnic groups. To attempt to find causes for the exodus of Mexican-American children from the schools, it is well to review the results of studies on attitudes of Chicano students toward our present educational system.

A survey conducted in some schools in the Los Angeles area by Demos (1962) revealed that Mexican-American students expressed attitudes toward education which were significantly less positive than those expressed by a comparable group of Anglo-Americans (i.e., not of any identifiable ethnic group). Specifically, Mexican-Americans expressed views which were on the less positive end of the scale on the

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following issues: (1) importance of an elementary education, (2) staff concern about students, (3) desirability of dropping out of school, and, (4) importance of regular attendance. A more recent study by Ramirez, Taylor, and Petersen (1968) in Northern California replicated most of Demos' findings and identified other attitudes of Mexican-American students toward education. Among these were: (1) teachers do not understand the problems of students, (2) if a good job is available, a student should drop out of school and take it and (3) if a student can speak another language, he should be allowed to use it in school.

Both these studies give evidence as to the Chicano student's unhappiness with the present educational system. Another aspect of the latter study served to give insight as to some of the causes of alienation. It employed a projective technique consisting of pictures (related to education) to which students were asked to tell stories. Themes of stories told by Chicano students supported the culture clash hypothesis as one of the most prevalent causes of interpersonal conflict between teachers and students. That is, these conflicts appear to be a consequence of the differing value systems of the participants. Each misinterprets the behaviors, attitudes, and motives of the other.

Besides resulting in alienation of Chicano students, cultural exclusion in the schools has also exacerbated the identity crisis experienced by these students. Since the culture of the Mexican-American is not permitted expression in the schools, the Mexican-American parent is not able to become a participant in the educational system; this, in turn, results in a wide gulf seperating the two worlds in which the child must participate. The world of his parents is usually very much identified with the Mexican-American value system, whereas the world of the school is usually representative of the value system of middle-class America. Since little effort has been exerted by the schools to involve the Chicano parent and since many of the parents have had unpleasant experiences in the schools, they see the school as an unfriendly, unpleasant place. Is it any wonder, then, that children are apprehensive and ambivalent about the school?

In many Chicano neighborhoods the image of the school is that of a place where punishments rather than reinforcements are meted out, a place where the Chicano does not stand a chance to make good, a place which ignores and even rejects the Mexican-American culture. Under these circumstances, the plight of the Mexican-American parent is onerous: he believes his children should look up to him and should want to be like him, but at the same time he knows that he has not made it because the majority culture has not accepted his values and his language. He is inevitably forced to place his child in a double bind—"be like me, but don't be like me."

At school, teachers believe that the language and the way of life of the Chicano parents are hindrances to the child. The message of the schools is—if you do not abandon your identity with the Mexican-American culture, you will not be a success. Now the identity crisis comes to a head; the child must choose between his parents or his teachers, his Chicano peers or his Anglo peers.

The turmoil and tension of this conflict are vividly expressed in this story told by a Chicano junior high student to our picture card projective instrument: "He is a student. He probably has problems in his studies and is trying to figure out a problem. He has problems in something else, too, that he is trying to figure out. Seems as if he is caged in, trying to find a way to escape. He feels as if he is on trial—as though two different worlds were pushing him. In one sense society is trying to push him; in another it is trying to pull him back. It seems like society is too far advanced for him to figure it out."

Needless to say, the unpleasantness generated by the identity crisis becomes associated with the school. Little wonder, then, that Mexican-American students have high absenteeism and drop out rates.

The Chicano students, then, truly feel caught between the demands of two different worlds. Let us examine how, in fantasy, they attempt to resolve this dilemma. One of the most common themes of stories given by Chicano students to our projective test went somewhat like this. A student got into trouble at school. His parents were called in for a conference. His parents demanded that he do well in his studies, whereupon the child's performance improved dramatically. Supporting this was the finding on the attitude scale that Chicano students agreed significantly more than Anglos with the following item: "It is good for parents to put pressure on their children to get as much education as possible." It is as if the Mexican-American student is withholding his approval of the values of the school system until his parents indicate support of them. It is obvious, then, that parent involvement is an indispensable ingredient of any compensatory education program for Chicano children.

Another finding relevant to parent involvement was uncovered in our research with fourth graders. We found that Mexican-Americans, significantly more than Anglos, related stories to our picture cards indicating need for achievement in order to please their parents. This is important information which has not been used by our educational system to encourage achievement by Mexican-American children. Thus, by way of cultural exclusion, the Chicano child and his parents have been alienated by the schools and, more importantly, the educational system has neglected to build on aspects of the Mexican-American's socio-cultural system which could have contributed to the child's success in school. This has also been the case with other ethnic groups which have been similarly ostracized—the Blacks, Orientals, Indians, and the Eastern and Southern European ethnic groups. These are, then, the groups which will provide the challenge for American education in the seventies.

If cultural exclusion is to become a thing of the past, it will be necessary to institute educational programs which will serve to bridge the gap between home and school for the bicultural child. This means that a good deal of emphasis must be placed on parent involvement. No matter how innovative or theoretically sound a program is, if it does not provide for parent involvement, it is supporting the policy of cultural exclusion. Parent participation is particularly indispensable in bilingual programs, for in many bicultural communities, parental knowledge of language and culture represents a valuable resource which has heretofore not been utilized. Parents should be remunerated to serve as language teacher aides both at home and at school. Part of the curriculum of the bilingual program should be written in such a way that parents can teach it to their children at home. Parents will support the goals and values of the school, when the school recognizes the worth of their culture and the fact that they can make a unique contribution to education. In addition, with parents serving as aides, this permits greater opportunity for teachers and parents to come in contact with each other. These sessions could be structured in such a way that they will result in both parties becoming sensitized to each other's culture.

At times, cultural exclusion masquerades as innovative compensatory education. That is, the learning experiences which bicultural children have had previous to coming to school age are considered inferior—the child, we are told, needs to be upgraded. This assumption ignores the fact that the culture of the child and his parents is represented in the learning style he brings with him to school, in his interests and his perceptions. It is rather, then, the structure of the educational system which must be altered to build on the child's previous learning experiences. For example, interpersonal relationships between "teacher" and "student" in the Mexican-American culture are very personalistic. Chicano children like to achieve so that their parents will be proud of them, and their ability to fantasize is well developed.

How many of the experimental educational programs presently being implemented with Mexican-American populations are based on this type of data? In fact how many of these are based on the assumption that the Mexican-American culture is positive? Most of these are based instead on the assumption that everything the Mexican-American child has learned prior to coming to school is useless; thus it is easy for educators to conclude from this that the Mexican-American culture is bad.

To compensate for this, I would like to recommend that still another title be added to the Elementary and Secondary Education Act—this to encourage programs on culture-matching educational strategies. It would stimulate development of programs which match the teaching style of the school to the natural teaching style of the child's home. In addition, it would provide for developing and implementing curriculum which matches and builds on the culturally unique learning style of the child. In line with this, there is need to develop intelligence tests which are sensitive both to the learning style and previous learning experiences of the bicultural child. A section within the Bureau of Research at the U.S. Office of Education could concern itself with developing assessment instruments for minority group children. In the interim, to prevent further mistakes, legislation should be initiated which serves to prohibit testing of bicultural children with instruments presently available.

Changes in present legislation should be in the direction of insuring that school districts live up to promises made in their proposals and to the guidelines of the legislation under which they receive their funding. Lack of provision for evaluation and the looseness of the present guidelines encourage dishonesty and slipshod performance.

In conclusion, the demands of the seventies are going to force us to live up to a promise which this country made to all peoples who migrated here—that all cultures and all languages would be respected and reinforced.

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A NATIONAL SCHOLASTIC STANDARD[1]

H. G. Rickover, Vice Admiral, U.S. Navy, Washington, D.C.

It has long been evident to me that the absence of a standard handicaps American education. Our schools and the diplomas they award have always been qualitatively of the most amazing diversity. This was perhaps unavoidable in earlier times when Americans were still engaged in subduing a wilderness. Different parts of the country were then at different stages of development, and education, of course, reflects the state of culture. It was bound to be better in the long-settled communities along the Atlantic seaboard than in pioneer country. But today we are one nation technologically and culturally; we should be one nation in education as well. Our children's educational needs are the same whether they go to school in California or Maine, in Minnesota or Texas.

Everywhere, and at all times, a country's level of culture and technology sets the requirements for education. The men who direct our public school system seem to be but dimly aware of this. They subscribe to a philosophy of education, an ideology, which is at odds with reality. They recognize neither the educational needs of children in today's world, nor the reality of their diverse native endowments which necessarily determine what each can accomplish educationally. Nor do they have a clear concept of the basic purpose of a tax-supported public school system.

Schools do not exist in a vacuum. Nor are they set up to serve as laboratories for testing new-fangled ideas dreamed up by theoretical educationists. They are established to supplement home, church, and community as educators of the young. Their primary task is intellectual education, a task no other agency *can* do. It matters not how well they serve children in other ways. They will have failed their purpose if they do not transmit to them the knowledge, and develop in them the intellectual skills that children must acquire if they are to become contributing members of their society.

How well then does American public education perform its primary task? Do our young people acquire at school the knowledge they need to understand our complex modern world, the intellectual skills they need to qualify for the kind of work that is available? Have they received the best preparation—commensurate with their ability and industry—for the responsibilities of adult life?

To meet these responsibilities, they must have adequate knowledge in the areas of language, mathematics, science, government, history, and geography. Success in adult life—as an individual, a breadwinner, a citizen—is closely linked to the amount of education one acquires at school in these areas of basic knowledge. Have our children learned as much, *have their minds been stretched as far as would have been the case had they gone to school in some other culturally and technically advanced country?*

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The world is now so small, so competitive. The economic and political position of nations is bound, in the long run, to reflect so accurately the quality of their people that what is achieved in foreign school systems can no longer be disregarded by us. There is a sort of international Plimsoll mark in education that sets a standard below which it is unsafe to let public education fall.

My work gives me a unique opportunity to judge the products of our schools. Over the last two decades, I have interviewed several thousand top graduates of the Naval Academy and of our best colleges who wished to enter the nuclear program as designers and builders or as operators of atomic-powered ships. I look for bright, well-educated, young men with initiative and the ability to think for themselves. I find, though nearly all the applicants have excellent minds, disturbingly few qualify educationally. I constantly come up against the results of poor education; I see how much talent is wasted, how little progress has been made in education, despite the vast amount of thought and money we have expended in recent years. I find that technically the young men are better trained now, but their general education remains inadequate. The schools are letting us down at a time when the nation has urgent need of the *developed* intellectual resources of all our people.

Ours is the most complicated technical society in history. We live in a democracy, hence under the most difficult kind of political system, since it requires so much of each citizen. We need better educated people to manage our society, better educated citizens to assure that it will be well governed.

In the military, we are used to comparing ourselves with other countries, for we know it would be dangerous to let anyone get ahead of us. After extensively investigating school systems in other advanced countries, I must regretfully say that our competitive position in education vis-a-vis these countries is unsatisfactory. There are many reasons why our schools are less effective educators of the young than schools elsewhere, and I have spoken and written of them at length. Underlying them all and perpetuating them is our commitment to standardless comprehensive schooling.

Seven years ago, I testified on English education before the House Appropriations Committee. The late Chairman Clarence Cannon asked by what means I thought Congress might help speed educational progress. My reply was: By establishing a National Standards Committee, and I outlined what kind of committee I thought it should be and what specific functions it should perform. In the preface he wrote to the published hearings, Mr. Cannon expressed the hope that they would "stimulate a national debate on the question of whether there shall be set up an agency of some kind to provide permissive national standards."

It should be said first off that we are the only civilized country where public education operates without a national academic standard, where neither the names of educational institutions, nor their curricula, nor their diplomas or degrees represent a definitive and known standard of intellectual accomplishment. In Europe—the only area we need to be concerned with since the Europeans (including the Russians) are our only true competitors in public education—in Europe it is taken for granted that children must be tested against an objective standard before they are promoted. Otherwise, there might be gaps in knowledge, or repetition of subjects already studied, or children might embark on new programs before they are ready for them.

European educators and public alike are agreed that study programs must be carefully planned and that they must lead to a variety of educational goals, reflecting the variety of learning ability and of vocational objectives of their pupils. They are agreed that for efficient progress, programs must be sequential, each year building on what has been learned in the preceding one, each phase of schooling articulating closely with the one below and above it—as from primary to secondary and from the several schools to vocational-professional schools, building upon the general education received at the secondary level. None of this would be possible if there were no national scholastic standard. Because *all* European schools concentrate on intellectual education, there are transfer possibilities all along the line for anyone who suddenly develops talents he had not previously shown, *provided* he is willing to make the effort to catch up with programs at a higher level.

Next to the greater length of the European as compared to the American school year, it is this close articulation in European public education that makes it possible for European children—*all* of them, bright, average, and slow—to reach any level of scholastic achievement at a much earlier age than ours. It also accounts for the fact that geographic inequalities due to different rates of economic progress in different parts of the country are not as pronounced there, and transfer from the schools of one locality to those of another is easier.

Though our children would greatly benefit from a national scholastic standard, the prospects are not good that we shall be able to obtain it for them. Theory and practice in American public education are strongly opposed to testing children against objective standards.

There is a school of thought which considers tests irrelevant to the process of becoming educated. But this, as one of England's university examiners aptly remarked, would be true only if one felt it "to be sufficient to expose the pupil to learning and undesirable to discover if there are any results." Many schoolmen object to achievement tests because some children would fail and this might injure their psyche. But in life, all of us are constantly tested against objective standards of performance; all of us at some time or another will fail a test. Would it not be better to let children discover at school what their abilities and limitations are, thus giving them experience in coming to terms with the truth about themselves *before* they have to face the demands of the adult world? Fewer young people would then need to be counseled by "career doctors."

I am inclined to think the main reason why our schoolmen oppose a national academic standard is that it contravenes the "Freudian" or "Social" ethic to which most of them are committed—an ethic which deprecates *individual* responsibility for what one makes of his life, and places responsibility on *society*. Those who accept this ethic tend to look upon education as a "right" possessed in equal measure by each child; in other words, a right with no conditions attached to it. It is not enough that there be *equal educational opportunity;* what is demanded is the right to higher education and to degrees *without* giving proof of qualification. Removing the price tag from higher education has had the curious effect in this country of transforming education into a sort of "consumer good" which a democratic society is expected to hand out equally—"fair shares for all."

At present the American people have no yardstick with which to assess the performance of the schools for which they tax themselves so heavily. A national scholastic standard would give them such a yardstick, but the educational establishment will not even tolerate a permissive standard. We therefore have no way of finding out what, concretely, our children have learned at any given age and ability level, or how this compares with achievements in other school systems.

Such feeble attempts as we have made to evaluate our schools have been warded off by raising the bugaboo of Federal control of the curriculum. Comparison with education in other advanced countries is rejected on the grounds that all foreign school systems—including the Russian!—are "aristocratic." We alone, it seems, have "democratic" education. Consequently, so it is said, the objectives of American education, the educational needs it serves, are so unique that what is accomplished elsewhere can be of no interest to us. Consider this statement made by an influential educator before a committee of the U.S. Senate: "Good teaching of reading beyond the fundamentals," he said, "is one thing in a society where a person is being prepared to read and instantaneously believe government propaganda, and it is an entirely different thing in a society where a person may be expected to enjoy the privilege of reading a free press."

I have thought and thought, but I cannot get the sense of it. Does he mean it is more important to be able to read in Russia than here? Or does he mean the opposite? Does he really mean that *how* you teach children to read depends upon *what* they are going to read when they grow up?

One is always tempted to see in this or that defect the root cause of mediocre school performance. My own feeling is that most of the inadequacies of American education can be traced back to misconception of what "democratic education" really is. The schoolmen are passionately committed to the dogma that, to be democratic, education must not only be free but comprehensive as well. I would say that it must be both free *and of high quality*. It must provide public schooling that is as good as the costly private schooling available to children whose parents can pay the fees.

As I see it, the reason we and every other advanced country support expensive systems of public education is that we are determined that no child shall be denied schooling because he cannot pay for it. We socialize the cost of education to equalize opportunity.

Educational inequalities resulting from differences in wealth can be eliminated by shifting the financial burden of educating children from parent to taxpayer. *"Inability to pay" school fees is a removable bar to educational advancement.* There remain then the inequalities of ability and drive that are inborn. Society cannot play God and create children that are identical in mental capacity. Society cannot eliminate educational inequalities resulting from differences in aptitude—*"inability to learn" is an irremovable bar to educational advancement.* Many a poor child is gifted, many a rich child is stupid; either child may be industrious or lazy. The best that society—any society—can do is to make certain that the educational levels a child attains are determined *solely* by his own giftedness or stupidity, industriousness or laziness.

It matters not whether fees are charged or schooling is free; an educational system that takes no account of differences in learning capacity will give neither the bright nor the slow, nor even the average child, the education his capacities warrant. When you eliminate "ability to pay" as a criterion for educational advancement, you get democratic education, when you eliminate "ability to learn," you get noneducation.

Differences in learning ability, already evident when children enter school, increase year by year, as more difficult subject matter is studied. By about age 11 and 12 the *gap in mental* age in any representative group of children will then be six and one-half years overall, and three years if the top and bottom 2 percent of the intelligence range are left out. The *gap in achievement levels* will be greater still; it may be eight years. Studies in geography, history, English composition, literary knowledge, science, arithmetic reasoning, etc., have shown that in every high school grade "the complete range of elementary school achievement is present." Indeed, it *must* be present in a *comprehensive* high school, since a substantial segment of the school population is intellectually incapable of advancing beyond the elementary level. Half our children, let it be remembered, are *by definition* below average, they are below 100 I.Q.

Comprehensive schooling in the primary grades is common to every system of public education. Experience has shown that *all* normal children, if properly instructed, *can* master the elementary subjects, though at different rates of speed. So long as the program is the same for all, differences in the *pace* at which children progress can be accommodated. But when mental inequalities affect not merely the speed of learning but its very substance, comprehensive schooling no longer makes sense *in terms of what children need.* They need to be challenged, to stretch their minds, to absorb the maximum amount of knowledge consistent with their endowments. Experience has shown that if they are to have this kind of education, they must separate at the end of elementary school, as indeed they do abroad. On the Continent, especially, there is an adequate choice in types of secondary schools to fit the the abilities and goals of bright, average, and below-average children.

In this country, comprehensive schooling continues to the end of public education. Abroad, it is discontinued when the point has been reached where subjects which bright children are able to absorb with relative ease have become extremely difficult for average children, and are incomprehensible for those at the bottom of the ability scale who are still struggling with the elementary subjects everybody else has long since mastered. Preoccupied with the comprehensive dogma and the impossible goal of "higher education for all," the educational establishment in this country has failed to develop programs for different levels of ability that are as well thought out, as efficiently organized as the system of secondary schools in Europe.

We have the most expensive public education in the world, yet nowhere can a bright child obtain the excellent academic secondary schooling that European *lycees* and *gymnasia* provide—usually at no cost or, if a nominal fee is charged, at no cost to those who cannot pay.

In these day schools, which are to be found in every town of 10,000 or so, students are carried by age 18 to 19 to a baccalaureate that is fully the equivalent of the B.A. of a first-rate American college, with only the student's "major" missing. No European child is barred by poverty from attaining this educational goal. Many American children are so barred, for even in a nominally free state university, the cost of room and board may be beyond his financial resources.

Nowhere in our expensive school system can the average child find the excellent secondary schooling below baccalaureate level that is to be found in Europe. Upon the general education that is received in these secondary schools, there is built a network of vocational programs producing competent artisans, technicians of every kind, librarians, nurses, and a great variety of semi-professionals.

All of Europe has a shortage of unskilled labor and imports large numbers of foreigners; we have a surplus of unskilled labor and a shortage of every kind of skilled technicians and professions. We go abroad seeking to lure such people with high salaries, a practice which is deplored by countries that have invested much public money in the education of their talented youth and resent this "brain drain."

Nowhere in our expensive school system can you find the equivalent of the "common" school which in Europe provides the absolute minimum of education, the rock bottom below which no one falls who is not hopelessly retarded, since attendance during the period of compulsory education is virtually universal. We still have a serious illiteracy problem. In all of the advanced European countries every normal person is literate and numerate and this has been so for some generations. For example, as long ago as 1887 the illiteracy rate for Germany was 0.6 percent, for Switzerland 1 percent—far below our own.

Despite all the criticism of our educational system that I and others have made for more than a decade, and all the protestations of the education establishment to the contrary, let me invite your attention to a proclamation made by the U.S. Commissioner of Education on September 23, 1969. He said: "We should immediately set for ourselves the goal of assuring that by the end of the 1970's the right to read shall be a reality for all—that no one shall be leaving our schools without the skill and desire necessary to read to the full limits of his capability." What a travesty on the American educational bureaucracy!

Speaking of the European "common" school, a prominent French educator, diplomat, and scholar recently said that "a vast amount of experience and understanding," the "imagination and inventiveness" of many great educators had been invested in building it into a school that turns out "youngsters with a real comprehension of their destiny and environment," youngsters who in their early teens already are "equipped with a sense of freedom and a command of verbal expression and communication for which adolescents of other areas may well envy them."

A great deal of nonsense is put forth in support of the dogma that to be democratic, education must be comprehensive, such as that it has never been *proved* that learning proceeds faster in an intellectually homogeneous group, or that it is an *enriching experience* for all if bright, average, and below-average children study together, or that it is a democratic duty for bright children to be present so that they might act as sort of "yeast" that will cause the overall level of a heterogeneous class to rise. One senses something of a feeling that nature is "undemocratic" in its distribution of talent and that the school should counteract this. What else but a basic hostility to very bright children can explain the curious American custom of classifying them in the category "exceptional," together with the subnormal, the blind, the deaf, and all others whose distinction from the "norm" is an inborn *defect?*

I am sure that educators are kindly people, well disposed toward the children in their care. Yet, when I read their disquisitions and observe their actions, I cannot help but feel that they sacrifice good education to questionable dogma. In their educational philosophy, social and political objectives appealing to the adult community sometimes take precedence over the need of the school child to be given the best possible chance of becoming an educated person. Does this not "use" the child for purposes not his own? I should like to see the Kantian imperative applied to children, as most of us agree it should apply to adults. He said: "Every man is to be respected as an absolute end in himself; and it is a crime against the dignity that belongs to him as a human being, *to use him as a mere means for some external purpose.*"

One of our most eminent educators says that we are unalterably committed to "a common core of general education which will unite in one cultural pattern the future carpenter, factory worker, bishop, lawyer, doctor, sales manager, professor, and garage mechanic." One wonders whether we are committed to this objective because great educators and scholars, upon mature consideration, and after observing educational experience in many other countries, have come to the conclusion that such comprehensive schooling is the best means to educe or bring out our children's innate mental capacities. Is it not rather a Utopian dream of grown-ups, this vision of children from every conceivable background, bound for every imaginable vocation, all growing up in "democratic togetherness"? A dream that carries us back to the one-room schoolhouse and so to a simpler life when people were friendlier and communities more democratic than today. Those who promise that comprehensive schooling will continue forever appeal to emotions that run deep in the American character.

Nostalgia for our pioneer past at times assails twentieth century Americans, though not to the point of voluntarily relinquishing the sophisticated gadgets that make life pleasant and comfortable. These gadgets are products of a society quite unlike the one where everybody attended the Little Red Schoolhouse. It is a society where differences between people are much greater than in preindustrial America.

People now differ more in what interests them and in the kind of entertainment they seek. The difference has little to do with money. Cost does not explain why only a tiny minority read the *New York Times* or the *Atlantic Monthly* while multitudes enjoy the comics. People now differ more in the kind of work they do. They differ more educationally. Some of the most vitally important work in our technically advanced society can be done only by persons who must be much more intelligent than most others and who have absorbed a far more intellectually demanding education than the majority of children are able or willing to pursue.

What our children need is not "common core" education leading to a single cultural pattern but diverse schooling suitable to their diverse talents and objectives. A genuinely "democratic" school system should encourage all kinds of individuals to run on all kinds of tracks. Slow teenagers need very intensive instruction in the fundamentals of education; bright ones should be getting into calculus, foreign languages, science, etc.; average ones should be encouraged to absorb as much of true secondary education as possible.

Practical necessity has forced the educational establishment to introduce some diversity into the comprehensive school. This has led to a uniquely American kind of secondary schooling in which there is a "common core" program, supplemented by "electives" chosen by the students. The common core program provides the "Education for *All* American Youth" that the schoolmen demand. Of necessity, it must be devoid of all intellectual content, so that all children may attend it together. It is a mishmash of courses in simple skills with which European schools do not concern themselves; they leave it to the home and to the experiences of life itself to provide young people with this sort of "life adjustment education." The electives are intended to provide diversified education. By leaving the choice to boys and girls, the schools abdicate their responsibility to guide the intellectual development of our youth.

The best compromise so far devised between the dogma of the schoolmen and the educational needs of the children is the multiple-track comprehensive school. Its drawback is that the school must be very large. Instead of the several hundred pupils of European secondary schools, ours may have several thousand. This is not good for young people. Even college students resent having to obtain their education in gigantic "knowledge factories." Their sense of being "cheated" by the adult world is at the bottom of most of the student revolts on campuses across the nation. And the students are right. *Educational gigantism has no justification in terms of the needs of students.* Its *only* justification, whether in high school or in college, is the comprehensive dogma to which the adult world subscribes.

Though growing in number, multiple-track schools are still under attack as "undemocratic." Many schoolmen prefer to cope with the diversity of human intelligence by easing educational advancement of the less able. We have gone a long way toward automatic promotion and the granting of diplomas that are little more than certificates of attendance. Witness the following remarks of the superintendent of a large city school system: "Regardless of the variation of high school courses and the range of scholastic achievement . . . straight-thinking and democratically-minded school administrators have long since adopted the idea of the same diploma for all." He notes with approval that high school diplomas no longer carry "the name of the course in which the student went through school."

I can see nothing "democratic" in promoting a child before he has mastered a prescribed course. He will only *seem* to move up the educational ladder. In reality he will be standing still on the same rung. Nor is there anything "democratic" in granting diplomas that meet no recognized standard. By not setting standards, we have brought our so-called higher education down to a "creeping lowest denominatorism." All our diplomas and degrees have suffered the fate of paper money that is not backed by gold bullion. They have no *intrinsic* value. Their value can be ascertained only by checking on the institution that has issued them and the study course for which they were granted.

The process of down-leveling must somehow be stopped. This is what my proposal for a National Standards Committee is intended to do. Let me describe what I have in mind.

I suggest that it be a small committee, composed of men of national stature and eminence—trustworthy, intelligent, scholarly, and devoted to the ideal of an American education second to none. The committee would have two tasks:

The first would be purely informational; it would act as an educational watchtower announcing danger when it saw it approaching. The members would keep under continuous scrutiny and periodically report on the state of American education. Does it meet the needs of our times? Is it scholastically as good as education in countries at similar levels of culture and technology with whom we compete economically, politically, or militarily? How do American children compare in academic knowledge with children in Europe or Russia, say at age 12, or 16, or 18?

The committee's second task would be to formulate a national scholastic standard on the basis of its findings, a standard which would make us internationally competitive and would also respond to our specific domestic needs. The committee would do this by means of examinations set at different ability levels. No one would have to take them, but those who passed would receive national accreditation. The committee would in no way interfere with established institutions now granting diplomas or degrees. It would simply set up a higher standard, offer it to anyone who wishes to meet it, and certify those who had successfully done so.

Neither the committee's informational nor its standard-setting function would represent a radical departure from established practice. Many Federal agencies collect and distribute information. We need a disinterested agency to tell us the unvarnished truth about the true state of American education. The committee would help prevent complacency and illusions of superiority, and thus save us from such painful shocks as Sputnik and other evidence of Russian scientific proficiency have given us in the past. There is precedent, too, for the committee's setting of permissive national standards. We have something very like it in the 1965 Water Pollution Act.

Under this legislation the Federal government is authorized—*if so requested by a State*—to research and develop new methods of pollution control and to award grants-in-aid to localities and States wishing to use these Federally established methods. We have here a national standard very much like the scholastic standard of the proposed committee, in that it is not *imposed* but merely *offered as a service* on a take it or leave it basis.

Let me interject a word here as to what I mean by the word "standard." It has, as you know, a number of different connotations. I use it in the sense that comes first to mind: a specific requirement or level of excellence deemed worthy of esteem or reward. Not a *law*, enforceable in the courts. Falling below standard does not put one in jail. Nor a *conventional* rule imposed by society. Failure to meet the standard does not get one socially ostracized. No one *has to* live up to the standard. It is simply an *optional criterion* for determining the value of an act or accomplishment. For those who accept the standard it becomes the yardstick by which the worth of these acts or accomplishments is determined.

Water pollution and mediocre education have this in common: they are problems that cannot be solved by local and State authorities *alone*, but require some assistance from the Federal government. Population growth and technology threaten us with a severe water shortage unless we devise better means to preserve the quality of our water resources so that they may be used over and over again. Pollution abatement has therefore become a national problem, and we accept a new kind of Federal aid, just as we accept Federal aid for clean air and for automobile safety. I believe improvement of the quality of American education is at least as pressing as the need for an assured supply of clean water, pure air, or safe automobiles. Education is now the indispensable medium for survival and progress. Education is so basic to the quality of our national life that by steering it in the right direction we can change America's future; we can make it secure. To steer it right we need a new kind of Federal aid—the kind of aid that the proposed National Standards Committee would offer.

I hope I may convince you that it would be entirely proper and exceedingly useful for us to have such an agency. Let me make it crystal clear that nothing in my proposal would violate the constitutional separation of powers between Federal and State governments, nor go counter to our tradition of control of schools by the local community. I envisage the rendering of a *service*, not *regulation* in any way, shape, or manner. The proposed committee would not usurp the functions of any existing institution.

Its job would be to draw up national examinations going deeply into a candidate's true knowledge and intellectual caliber—not IBM-graded, multiple-choice tests. I suggested to the Appropriations Committee that we might model them on the English national examinations which offer tests in many subjects. Students choose the subject and the level at which they wish to be examined. This is marked on their certificate.

The committee might provide one set of examinations at the level appropriate for a high school graduate who aspires to enter a first-rate college; another set of examinations at the level of students who may wish to prepare for a semiprofessional or technician's job not requiring a bachelor degree but still requiring a good secondary schooling; still another for graduates of various types of colleges, especially those bound for the teaching profession. I stress again that no one would need to take these examinations; but those who did pass them successfully would obtain national certification; perhaps the notation National institutions or prospective employers have a valid reason for would clearly indicate what the holder had achieved.

There are many occasions when it is important to know what educational level a person has reached. Admission officers of higher educational institutions or prospective employers have a valid reason for wanting to know what exactly are the qualifications of an applicant. Think how much time and money would be saved if his diploma or degree indicated this clearly! Everywhere abroad it is taken for granted that diplomas and degress conform to a specific standard—a standard known to everyone. Setting the standard is not regarded as government intrusion or tyranny but as a welcome service to students, their parents, and the taxpayers who bear the cost of public education.

Everyone benefits when there is a standard. At one stroke it does away with misleading educational labels so that any layman has the means of judging whether a school or college is doing its job properly. By offering the reward of a certified diploma to our children, many who now drift through school would be encouraged to aspire to higher academic goals. You cannot expect children to study hard subjects such as mathematics, science, and languages when next door others are effortless accumulating equal credits by easy life-adjustment courses in "Family Life." It surely is not "undemocratic" to reward those who exert themselves with a diploma that takes note of their accomplishments. This is what certification by a National Standards Committee would do.

There is no question in my mind that a large sector of the American people wants better education. Public interest has grown tremendously. Every time I speak or write on education I receive a large number of letters.

What strikes me in these letters is the sense of individual helplessness they reveal. Individually, my correspondents have long known that education must be drastically reformed but they do not know how to induce the school system to act. The very size of our nation alienates public agencies from the individual and accounts for much of the political apathy for which the people are frequently castigated. Yet all too often they can find no one in public office to supply the leadership that is needed to carry out their wishes, especially when this requires tackling, on the local and on the national level, so powerful a lobby as our educational establishment. People like myself can try to bring the truth to the public so that it may be able to reach a consensus—and this I believe has now been accomplished. Enough people want school reform to warrant public action.

The Spanish philospher, Ortega y Gasset, once wrote a book on the thesis that "the most radical division it is possible to make of humanity is that which splits it into two classes of creatures: those who make great demands on themselves, piling up difficulties and duties; and those who demand nothing special of themselves, but for whom to live is to be every moment what they already are." I read this as a young man and it impressed me deeply. And all my life I have unconsciously judged people and institutions by whether or not they set themselves a standard, whether they measure themselves against a criterion that requires effort because they deem it worthy of effort.

Let us in education as in everything else heed Jefferson's advice, to "dream of an aristocracy of achievement arising out of a democracy of opportunity."

TEACHERS CAN GROW: EXPERIMENTS IN SELF-DIRECTED CHANGE

Carl R. Rogers, Resident Fellow, Center for Studies of the Person, Inc., La Jolla, Calif.

I have been deeply involved in several experiments in self-directed change in educational systems. In these experiments there has been much evidence of personal change, growth and change in classroom behavior on the part of teachers, and some change in the personal and behavioral development of administrators. There has been even more responsiveness to change on the part of students. It is these experiments which I wish to report in a personal way in this paper. But first perhaps a bit of the background of my thinking and experience might be in order.

THE NEED FOR CHANGE

There might be some who would ask, what is the need for change in education at all? Isn't the need rather for greater stability and consistency in our educational systems? In my judgment, one cannot read of the tremendous student unrest whether in France, Berlin, Mexico, Berkeley, or Columbia; one cannot talk with students, teachers, or parents without realizing the tremendous challenges which education is facing today and the fact that it is not meeting them very well. I see our whole educational system at a crisis point, a point of desperately important choice where we will either move forward or our educational system will essentially collapse.

We are faced with a great change in values and often a loss of values in our young people—culminating in those who "drop out" of our culture and its value system. We are facing the tremendous racial tensions and problems of the minority groups as they try to find their way out of the ghettos, whether in nonviolent or violent ways, with our educational system inevitably drawn into this struggle. We cannot avoid the incredible rapidity of change which outdates knowledge before it can be put to use. We cannot fail to see the tidal wave of desire for participation which sweeps almost all groups in almost all countries. Essentially, people are saying, especially to educators, "I want to *participate* in the decisions which affect me and my future." Can education come to grips with the real problems of our society? As I have observed the rigidity, stuffiness, and bureaucratic mentality of most educators, I feel it is a real tossup as to whether education can meet these challenges, in spite of the many exciting small experiments which are going on.

It is not that there has been a lack of plans for change in our educational systems. There have been plenty of such plans—indeed, a surplus. But nearly always these have been attempts to bring change in from the outside and such efforts have been largely futile. Recently I talked with a man who had, several years ago, developed a very fine program for training in citizenship in a whole group of high schools. He and his staff developed a carefully tested curriculum, they inaugurated training for teachers in how to teach this curriculum, and all of the teachers in the high schools were using it. It was a very expensive and well thought through program. Recently he had occasion to talk to a large audience of high school teachers from this same system. He had the courage to test out what he feared was the truth. He asked how many in the audience were using this citizenship curriculum. Not a single hand went up. I believe this is the state of many of the excellent programs which are brought into the schools from the outside.

AN INSTRUMENT FOR CHANGE

I believe, however, that we have an instrument for ***self-directed*** change which may introduce a new note and which may have a more lasting effect. Let me describe it briefly.

One of the most effective means yet discovered for facilitating constructive learning, growth, and change—in individuals or in the organizations they compose—is the intensive group experience. Known by a variety of names (encounter group, T-group, sensitivity training are some) it has a common underlying theme and quality of experience. The intensive group or workshop or encounter group usually consists of 10 to 15 persons and a facilitator or leader. It is relatively unstructured, providing a climate of maximum freedom for personal expression, exploration of feelings, and interpersonal communication. Emphasis is on the interactions among the group members in an atmosphere which encourages each to drop his defenses and facades and thus enables him to relate directly and openly to other members of the group—the "basic encounter." Individuals come to know themselves and each other more fully than is possible in the usual social or working relationships; the climate of openness, of risk taking, honesty generates trust which enables the person to recognize and change self-defeating attitudes, to test out and adopt more innovative and constructive behaviors, and subsequently to relate more adequately and effectively to others in the everyday life situation.

Since the mid-1940's such encounter groups have been used extensively with industrial executives, with government administrators, professional groups, and laymen—groups considered to be normal and well functioning. Groups have been conducted under a wide variety of auspices, of which the National Training Laboratory is perhaps the best known. On the West Coast, the UCLA School of Business Administration has been noted for its innovating use of such groups and I and my colleagues, formerly associated with WBSI but now organized as the Center for Studies of the Person, have led a very wide variety of such encounter groups.

Generally speaking, the aim of these intensive group experiences is to improve the learnings and abilities of the participants in such areas as leadership and interpersonal communication. Another aim is to bring about change in the organizational climates and structures in which the members work. These group experiences are most satisfactorily conducted as an intensive residential experience in which the participants live and meet together for periods ranging from three days to two or three weeks.

Within the past years, educators have begun to make use of the intensive group experience, though only to a relatively small extent. In the educational setting the aims have been to release the capacity of the participants for better educational leadership, to improve interpersonal relationships between administrators and faculty, faculty and students. Another aim has been to foster learning by the whole person—student, teacher, or administrator.

Although these several uses in educational settings have had satisfying and promising results, there has been almost no attempt to utilize the encounter group experience in a coherent approach to change in a total educational system. Hence, an all too common consequence has been that a teacher or a faculty member returns from such an experience ready to behave in new and changing ways only to discover that his attitudes are not welcome in a "stable and well-regulated" educational organization. Two alternatives are open. He returns disappointedly to his previous conventional behavior or he becomes a puzzling and disruptive influence in his institution, neither understood nor approved. In some instances he has lost either his job or his promotion through his attempt to utilize new methods in the school.

A Plan for Encounter Groups in a Whole System

Several years ago it began to seem quite clear to me that this new tool for change could not be used in the most effective manner in education unless the *whole* system was moving toward changingness in a way which accommodates change in its own personnel and in its own units. Industry has already learned this. It is this principle of opening up the possibilities for change in a whole educational system during a relatively short period of time which became the essence of a persistent dream of mine.

You may well ask what outcomes might we expect of such an experience where the trustee, the president, the dean, the faculty member, the principal, the supervisor, the administrative specialist attend such a group. It has been our experience that some of the outcomes can be described in a somewhat schematic form as in the following statements:

The Administrator

—will be less protective of his own constructs and beliefs, and hence can listen more accurately to other administrators or faculty members;

—will find it easier and less threatening to accept innovative ideas;

—will have less need for the protection of bureaucratic rules, and hence will decide issues more on the basis of merit;

—will communicate more clearly to superiors, peers, and subordinates, because his communications will be more oriented toward an openly declared purpose, and less toward covert self-protection;

—will be more person-oriented and democratic in staff or faculty meetings; hence

—will draw more widely and deeply on the resource potential of his faculty and staff;

—will be more likely to face and openly confront personal emotional frictions which develop between himself and his colleagues, rather than burying the conflict under new "regulations" or avoiding it in other ways;

—will be more able to accept feedback from his staff, both positive and negative, and to use it as constructive insight into himself and his behavior;

—will be more able to communicate realistically with his board of trustees, and thus possibly lay the groundwork for altering the organizational *structure* of the educational system (this will be especially true if the trustees themselves have been involved in an intensive group experience).

We may also make some predictions as to the outcomes that are likely in the teacher who participates in such an encounter group. The teacher will show many of the characteristic changes listed for the administrator, and in addition

—will be more able to listen to students, especially to the feelings of students;

—will be able better to accept the innovative, challenging, "troublesome," creative ideas which emerge in students, rather than reacting to these threats by insisting on conformity;

—will tend to pay as much attention to his relationship with his students, as to the content material of the course;

—will be more likely to work out interpersonal frictions and problems *with* students, rather than dealing with such issues in a disciplinary or punitive manner;

—will develop a more equalitarian atmosphere in the classroom, conducive to spontaneity, to creative thinking, to independent and self-directed work.

PUTTING THE PLAN INTO OPERATION

Thus far I have been rather descriptive and abstract. Now I want to tell you of our recent practical experiences in trying to make this dream a reality. I wish to "tell it the way it is." We have made many mistakes but we have had more exciting experiences than we would have thought possible and have learned enormously from the teachers and educators with whom we have worked.

We at last discovered a foundation willing to back such a venturesome idea (after being turned down twice by the Office of Education and by a number of prominent foundations) and we were ready to seek a target system. Our only criterion was that we wanted an educational system where the top leaders were in favor of such an innovative program of change. Though several systems eagerly sought to make themselves the target, we were finally persuaded—somewhat to my surprise—to work with the total educational system of the Order of the Immaculate Heart in Los Angeles. It was particularly intriguing because it included a college which has a heavy emphasis on teacher training, eight high schools, and 50 elementary schools. This gave us access to teachers and administrators at every level—college faculty and administrators, teachers and principals of the high schools and elementary schools, teachers-in-training, and students.

The First Steps

Our first step was to set up a joint planning group since we wanted the system to participate in every decision which was made. This group planned and carried through 23 voluntary encounter groups in the first five months of our experiment. Each of these groups met for two separate week-ends, having thus almost five intensive days together with several weeks dividing the two weekends. In these 23 workshops we had 400 teachers and administrators from the college, high school, and elementary school level. We had approximately 170 college students and 40 high school student leaders.

It would be impossible to tell all that happened in these encounter groups. One generalization which might be made is that we found the degree of resistance and nonacceptance of the experience almost directly correlated with status. It seems that the higher the status of the individual, the more fearful he is of an experience in which he might reveal himself personally to his colleagues or find it necessary to work out some of his interpersonal relationships with his colleagues. Thus, probably the administrators of the college were most resistant; the college faculty would be next on the list, then the high school teachers, then the elementary school teachers, while the college students and certainly the high school students were very open to this opportunity for experiencing interpersonal relationships on a more open and intimate basis. It is probably unfortunate that we started first with a college faculty and administrative workshop, not only because this was the most resistant group but because being new to this particular situation, we probably made more mistakes with them than with those that followed. Nevertheless, even here some of the college faculty gained a great deal from the experience and as will be evident in what follows, it laid the groundwork for many exciting later experiences.

The High School Groups—An Example

In order to give some feeling for the kind of events which occurred, I would like to try to tell you of some of the things that happened in three weekends with approximately 25 high school faculty and 40 student leaders from a girls' high school. As always, the groups were voluntary but included most of the faculty of this high school and almost all of the girls who had been elected to some office in the various student organizations. I was personally very close to these groups so I think I can make the experience more real and vivid for you.

We had supposed in the initial planning for the encounter groups *that faculty members and students would be mingled in each group.* We found, however, when it came to the specific planning, the faculty were unwilling. They felt they had separate problems which the students could not understand and they preferred to meet separately. Consequently, there were two groups of high school faculty and administrators and three groups of students. I felt that I had a liberal education in leading one of the student groups, together with a woman co-facilitator. At first it was almost all chatter-chatter, often with several of them speaking at once. It soon became clear that all feelings were regarded as "weird." For a person to express any deep or troubling feeling was "*really* weird." To me one of the most interesting things that emerged was that they had a real fear of being heard by anyone—not only adults but even their peers. One girl explained how comforting it was when a number of people were all speaking at once because she knew that she would not really be heard. But as the group became more comfortable with itself and silences occurred, then it was a very fearful thing to break the silence because she knew that whatever she said would really be *heard* by everyone there.

In the early hours of the group the chatter would only occasionally be interrupted by someone who expressed a genuine or deep feeling. Then the talk would immediately revert to the chatter level. Gradually, however, the conversation grew more and more personal and meaningful. They talked about their feelings regarding faculty and specific faculty members. They talked about problems they were having in their family or without parents. They discussed the difficulties in making career choices. They dealt very openly with the difficulties in the interpersonal relationships between the winner and loser in an election, both of whom were present in the group. They discussed these things in a way they had never done before. Since a number of their teachers were nuns, they discussed the fact that it was impossible to be *real* with a Sister. You could not really let a nun know what you felt or deeply thought. They discussed with much laughter the mythology they had absorbed about nuns. It was clear that they regarded them as a breed apart, an entirely different kind of person from the ordinary mortal. This was the reason why you could not possibly enter into real communication with one of them. At this point, my co-facilitator felt that she should speak up: "I think that perhaps I should tell you that I have been a nun." Jaws dropped all around the circle. "How long?" "Fourteen years," she replied. Thus it was that they discovered that they had been real in talking with a person who had been a nun, and that she had heard their feelings as a *person*, not a member of a special breed.

Although the problems they voiced and the feelings they expressed were not unusually deep and consisted mostly of the kinds of problems which trouble all adolescents, it was clear from their conversation and from the letters we received later that this experience of real sharing of feelings was a totally new one for them.

Meanwhile, the teachers were making the same sort of progress, becoming more personal with each other, openly confronting some of the interpersonal difficulties between them and becoming persons to each other rather than roles. By the time of the second weekend, faculty and administrators were quite willing—though somewhat apprehensive—to be mingled with the students in the groups. It was primarily the students who took the initiative in expressing their personal reactions to the faculty but soon this was a two-way process. In the group I was in the student gave the principal and the teachers very honest feedback. They told the principal how much they liked her in many, many ways but how frustrated and untrusted they felt when she behaved in certain ways. She really listened. Then other faculty members joined in, expressing some of their own difficulties in interpersonal relationships between themselves and with the principal.

There was one particularly memorable learning for me in this group. Faculty members began discussing the difficulties in which they were involved in a faculty organization—the misunderstandings, the hurt feelings, the tangled interpersonal relationships which were making it impossible to be effective as an organization. I became increasingly troubled because I felt the students were being left out and that a problem was being discussed which was of no interest to them. Suddenly one of the girls broke into tears. It turned out that she was facing almost identical problems in the student organization which she headed. She had had no idea what to do about these problems. She had never discussed them with anyone. She was greatly moved to know that faculty members faced the same kinds of problems and that perhaps she could talk about them here. What I re-learned from this experience is that when members of a group speak personally and deeply about their concerns, then this material has significance for every other member of the group because the deeper problems are ones which we have all faced in one way or another.

In the third weekend meeting of this group, there was really no distinction between faculty and students. They were simply talking together as persons. The aimless chatter had completely disappeared. They discussed with real feeling the things they wanted for themselves as individuals and the things they wanted for the school. It was a very profitable weekend in every way.

The Personal Quality of the Group Experience

Perhaps one incident in which I was directly involved will indicate something of the quality of experience which goes on in these groups. Sue was a rather quiet girl but obviously a very sincere and serious one. Rather early in the third weekend she had expressed some of the difficult times she was going through. She had found herself questioning some aspects of her faith, questioning some of her values, and she felt very uncertain as to the answers to these questions and also some despair. She knew that the answers must come from within herself but they did not seem to be coming and this frightened her. At another point she mentioned how frequently other students came to her with their problems. She felt that she was quite available to them and that she found satisfaction when she could be of help to another.

The next day there had been some very moving feelings expressed and the group paused for quite a time in silence. Sue finally broke the silence with some highly intellectual questions which were perfectly reasonable questions but somehow not appropriate to what was going on. I felt at some intuitive level that she was not saying what she wanted to say but she gave no clue as to what her real message might be. I found myself wanting to go over and sit next to her, but it seemed like a "crazy" impulse since she was not in any obvious way asking for help. The impulse was so strong that I took the risk and crossed the room and asked if I could sit next to her on the couch, consciously expecting that I would be rebuffed. She made room for me and as soon as I sat down she leaped into my lap, threw her head over my shoulder, and burst into sobs. I asked her, "How long have you been crying?" She answered, "I haven't been crying." I said, "No, I mean how long have you been crying inside?" She said, "Eight months." I simply held her until the sobbing gradually subsided somewhat. Little by little she was able to tell what was troubling her. She felt that she could help others but she felt no one loved her enough to help *her*. I suggested that she turn around and look at the group and she would see a great deal of love and caring on the faces of those around her. Then one of the sisters helped her by telling how she had lived through the same kind of period in her own life—doubt and despair and feeling unloved. Others also helped. Then Sue revealed the fact that her parents were separated, that she had greatly missed her father, and that to have a man show a caring interest in her meant a very great deal. Evidently, intuitively, I had sensed this but I have no idea of how this intuition came about. The risk I took was the same kind that other members of the group took at other times.

In the letters I have had from Sue since, it is very clear that the experience with me and the love and caring of the group have helped her over her despair. She still has many questions about which she is uncertain but the hopelessness and the feeling of being unloved have disappeared.

WHAT, IF ANY, CHANGES OCCUR?

Perhaps these descriptions give some hint as to what occurs in the encounter groups themselves, but they do not in any way answer the question of what occurs to these people—administrators, faculty, and students—when they go back to their regular school environment. Our experiences of the past few years have, I believe, shown us that the first and perhaps the deepest changes are likely to occur in the individual's close relationships—with family, with spouse, with close friends. These relationships change very definitely in a great many instances. The next area of change is in whatever area the individual feels potent. When a teacher closes the classroom door, he or she feels potent in relation to the students and feels that it is possible to change the relationship with the students. This is something that frequently occurs. The next area of change is with one's peers or colleagues. Here change is probably slower and less frequent. There is more risk in changing relationships with the equals with whom you work every day. Finally, there is the area of structural change in the organization and in the climate of the organization. The climate may change somewhat, but changes in organizational structure to fit that climate are slow in coming, and we need to learn much more about how to bring that about.

An Example from a Principal

These are generalizations. Let me bring them to life a bit by quoting some of the letters we have received from faculty and students.

An elementary school principal, whom I shall call Margaret, writes:

> It has taken me a while to be able to respond in writing to our sensitivity workshop. When I returned to school that following morning, everyone really seemed "shot"—yet I wonder if it wasn't one of our best teaching days—teachers seemed so aware of their children as people.
>
> I think, too, that socially the faculty has become much more aware of each other. Everyone seems to be trying to get to know each other more, not as fellow workers but as human beings.
>
> Oh, another reaction just zoomed up. I remember that Monday morning—I must have had 25 different feelings in an hour, but most of all I was *scared*—for the first time I was going to school as Margaret the person instead of Margaret the principal. It was a *freeing* feeling, too! And I survived!
>
> The strength that you all gave me is still very vivid in my feelings and, again, I want to say thank you and I am also trying to "soak up" the idea that Margaret *is* a lovable and loving person.

Examples from High School Girls

Since I have paid particular attention to the high school groups of faculty and students, I should like to quote from a few of the many reactions we have had from the high school girls who participated. One can see both indications of personal change and also in teacher-student relationships. One girl writes:

> I should state clearly right now that the workshop was one of the most important and beautiful experiences of my (relatively short) lifetime. I find personally that I am very much changed in my attitude toward teachers, fellow students, and just plain everybody. I am far more open now (or at least I try very hard to be) than I have ever been.

Particular attention might be paid to this next quotation. It sounds as though a student was rescued by the group experience from really serious alientation and possible psychological disturbance:

> The workshop gave me a deeper insight into the art of listening . . . already I have found a value in this "art" because many new friendships have opened up to me and old ones have become stronger and more important than ever. For quite a while I have been feeling very distant from people to the point where I was actually very worried about myself. Ever since the workshop, however, this feeling has been abolished and again I feel a real union between people and myself.

The next two brief quotes focus on the general climate of the school.

> Faculty-student relationships have absolutely *zoomed* . . . I feel that already there is a sense of cooperation circulating throughout the school. This has been made possible by the attitudes of our own student council.
>
> I haven't noticed any change in the teaching methods in my classes except my religion class is remarkably different from previous years. We discuss subjects of interest freely. We are encouraged to question, to challenge, and to say exactly what we feel without worrying about grades. . . .

Two final quotes from these high school girls stress again the personal learnings:

> All I can say is that you gave me the chance to learn how to look, to listen, to love.
>
> Not only have I learned to listen but to act, and to speak out as I feel.

Since we are more likely to receive letters from those for whom it was a positive experience than from those who had a neutral or negative experience, the quotations I have just given should be an indication of what can be achieved in such encounter groups, rather than an indication of what happens to every individual. We have also gathered data from all of the participants and when this is analyzed we will be able to describe more adequately the varying degrees of outcome. The fact that the attitudes were in general favorable may be indicated by the events of the second half of the school year which I would like to describe.

Two Unexpected Results

We had two surprises in store for us during the second half or our year working with the Immaculate Heart system. The first surprise was the rapidity with which teachers introduced highly individual and innovative changes into their classroom methods. Somehow we had supposed that this would come much more slowly.

The second surprise was even more encouraging. We began to receive so many invitations to conduct groups that we soon found that all of our work during the second half of the year was based entirely upon such invitations. In other words, we worked with groups who wanted us to help them communicate better and more deeply. The diversity of these groups was astonishing and I can only mention a few.

CLASSROOM CHANGES

Let me document first some of the kinds of changes which took place in the classroom. I will give one sample from an elementary teacher and one from a college teacher. The elementary teacher writes:

> You asked what happened to me . . . pure and simple, someone got to me—the inside "new" me . . . I listened and I heard, have heard and have been hearing things I have never listened to before . . . and love it. Results? All I know is it's fun. I have *listened* to my students. I asked them if in the past I had turned any off or not listened. The biggest *thugs* all raised their hands. Also—they are the most sensitive . . . I have had the busiest, most arousing, sapping, exciting, fun-filled, fulfilling, and happiest months since I started teaching and it hasn't stopped yet.

Her observation about the problem students, the "thugs" as she calls them, is particularly interesting. It is often true that youngsters who are creating problems are more sensitive to interpersonal relationships than others. Her comment also raises the interesting question of cause and effect. Were these children "thugs" and consequently she did not feel they were worth listening to, or did they *become* "thugs" because they felt they were not heard? It opens up a whole new perspective of thought on so-called "problem youngsters" in the classroom. Her statement also suggests how involved both students and teachers can become in learning when communication is *real* between teachers and students.

A faculty member at the college decided after being in an encounter group to conduct her courses in a completely different fashion. She sends with some pleasure the announcement she gave out in advance to her class and three full pages of student reactions to the experience. This is obviously much too long to quote but a couple of sentences from her announcement to the students will give the spirit in which she is conducting the course:

> My own personal goal in this course is to permit you all possible freedom in pursuing the study of ——— (hers was a high level language course requiring a good deal of reading.) I in no way consider you as empty recipients into which I will pour a stream of facts about this course. On the contrary, I hope to discover with you insights which will be most meaningful to all of us in individual ways because education which does not dynamically involve the whole person does not involve real learning.
>
> You are the best critic of any work you read because only you can make the important and relevant applications to yourself as a person . . . some of you may be frightened by this type of course. Please feel free to express this or any other reaction you may have enroute. I myself am apprehensive on many scores but I feel the risk is worth taking. How about you?

Here is one student reaction to her course, typical of many:

> I thought that the class was excellent and I learned a great deal. My first impression of the structure of the class was "help!" It was a bit awesome and frightening to be left on my own . . . structurally I felt more direction should have been given regarding whom and what should be read first. I did find difficulty in balancing my two experimental classes with my two other classes taught in a more traditional mode. When you have papers and due dates it is easy to let the unstructured classwork slide . . . other than these few criticisms I feel that the class as an experiment was a success. I hope you have the courage to do it again for it is always a risk to trust people. I am so glad that you did.

Groups Held By Invitation

In some instances a departmental faculty asked if a facilitator might meet with their faculty group in order to help them improve their interpersonal relationships and their general functioning. In other instances a department faculty wished to hold an encounter group type of session with all of the departmental faculty and all of the students majoring in that department. Then there were a number of instances in which a given faculty member wished us to meet with his or her class in order to help improve the climate of the class and the learning potentialities in the situation. In all of these things we felt that we had the opportunity for the very best of in-service and preservice training. Sometimes these groups were quite brief—two to seven hours in length—and we were not at all sure that much could be accomplished in that time. However, we came to respect the fact that when people are motivated and have taken the initiative in asking for a group, many barriers can be cleared away even in a very short period of time. Let me give two examples of what happened when a facilitator met with a faculty member and a class.

The Facilitation of Encounter Between Teacher and Students

A professor of education wanted us to meet with her and the teachers-in-training who were in her course. During this time she was able to reveal herself much more fully to the group than she ever had done before. This opened up communication among the students and between the students and the faculty member. The climate of the class showed definite positive change after that session.

Another rather striking instance was that of a faculty member who had just returned to the college from additional graduate training. She felt frightened and inadequate as a teacher but the only way she could show this was by intimidating and ridiculing her students for their mistakes. She was quite sharply aware that this was not the climate she wished and yet she felt powerless to change it. In one extended session, with a facilitator present, she found that she was able to reveal her fears and inadequacies to the group and received a very positive response from her students who were mostly teachers-in-training. Their attitude was, "This is just the way we feel when we look forward to the possibility of being teachers ourselves and we have been told that the first thing to do is get and keep the upper hand in our classes." Once they could see her as a frightened person this changed their perception of her. The experience also gave them the courage to confront her honestly when they were unhappy about her behavior in the course. It became a group of persons working together rather than a faculty member who was trying to remain aloof out of fear.

The College Paper

The student newspaper at the college tends to be run by a rather rebellious and activist group of students. They were quite skeptical about trying an encounter group but found themselves very enthusiastic about the experience. It also helped them to see that deeper communication was a way of bringing about change as well as criticizing and fighting with authority figures.

Administrators Take the Risk

The administrative council of the college had felt quite threatened by the possibility of an encounter group even though the president was in favor of it. Some of them learned of the "task-oriented groups" which were being conducted in industry to improve administrative functioning and they decided they would like to try this. Consequently, they invited Sheldon Davis from TRW Systems, who has done a great deal of this work, and myself to lead them in a task-oriented group. This meant that we interviewed each member of the group individually, the main question being, "What are the things which keep this college from functioning most effectively or from being the college you would like it to be?"

The answers fell into various clusters or themes and these were listed on the board as the agenda for our group sessions. Some of the agenda items were simply names, where people felt that one person or another was really blocking the effectiveness of the college. Some of the items concerned misunderstandings and differences and failures of communication about administrative matters. The group went straight through the agenda, dealing openly with the people involved though this sometimes involved painful confrontations. However, the caring of the group, and its desire not to hurt, was also evident. As a group, they came to an astonishing amount of agreement on many of the agenda items. A list of action steps was written down, steps to be taken in the near future. I am looking forward to the next meeting of this group which will occur very soon.

A Black-White Group

One of the most interesting and valuable invitations was received from a group of Negro girls. They decided that the black point of view was not sufficiently represented in the college and they organized a seminar. They invited white students to join, but the blacks were definitely in charge. They invited one of our staff to come and to sit on the sidelines during the first three meetings, but to serve as facilitator only if asked. This worked out so well that they invited him to continue through all their meetings. These were very exciting and moving sessions.

At first the Negro girls expressed a great deal of bitterness and the feeling that they were not all understood in their attitudes by any of the white community. Gradually, however, communication and real encounter began to take place. Probably the white students learned the most, but the black students learned that whites also have their hurts and that they have been damaged in the growing up process too. Perhaps one of the mutual learnings was that there is often much hurt in simply being alive in an imperfect world and that while the blacks may have been more deeply hurt, others have been hurt too. Another real learning by the Negroes was that there were those who truly wanted to "level" with them and vice versa, so that both black students and white students were telling it the way it was in them. The seminar seemed to be a small symbol of what is so deeply needed these days when almost all communication has been cut off between blacks and whites.

Though we received and responded to many more invitations than have been mentioned here, this may give some hint of the nature and quality of these experiences.

AN ENCOUNTER GROUP PROGRAM FOR THE LEADERS OF THE CLAREMONT COLLEGES

With some help from the Danforth Foundation, a project was developed by the six presidents of the Claremont Colleges in consultation with me. They decided that there would be five representatives from each college—a trustee, the president, the dean of the faculty, the dean of students, and a leading faculty member. Actually, the trustees were rarely able to participate because of other commitments so the actual group was composed of about 25 people. The colleges did their best to involve the persons mentioned though sometimes substitutions had to be made. Dr. Richard Farson and I led the two groups, both in general sessions together and in two weekends, as well as in some long evening sessions in between the two weekends. This was a very difficult group to deal with, both because of the status and age of the members.

Five of the 25 people came out of the experience with mildly negative to negative reactions but the great bulk of the group had an experience ranging from neutral to very, very good. As one president said, "This is the best thing that has happened to the Claremont Colleges in twenty years."

The last session was a task-oriented session in which they brainstormed at least a hundred positive actions which might be taken to improve the relationships between the Claremont Colleges and the situation in those colleges. Among other things, most of the group were in favor of extending and expanding the program the following year, though funds for this are difficult to find. I think most were agreed that the program would have been more profitable had student representatives also been included. A number of people have written in to state that there has been a decidedly positive change in the atmosphere of cooperation and communication between the colleges because of the encounter groups.

I have mentioned this program largely to indicate that the encounter group has possibilities for change not only in a women's college and schools in which the majority of teachers are women, but in a college situation in which almost all of the participants were men.

ENCOUNTER GROUPS FOR JUNIOR COLLEGES

At the instigation of some of the staff members of the College of San Mateo, a group of approximately 130 administrators, faculty, and students from a dozen junior colleges was assembled for a weekend workshop. Since some of the people felt somewhat pushed into these groups, the experience of the various groups ranged from only very modestly satisfactory to groups which had a very involving learning experience, in which they came to know their colleagues and their students far better than ever before. This one weekend is obviously only a beginning but plans are already being made for follow-up activities in some of the colleges. It also indicates the degree of acceptance of such an approach in that a dozen junior colleges would be willing to send representatives, even though in some instances this was awkwardly and poorly done.

SOME LEARNINGS

In all this diversified experience with administrators, teachers, teachers-in-training, and students of all levels, we feel that we have learned or re-learned a number of important things.

The first is that the person of the facilitator is extremely important to the group process. A facilitator seems to be most effective when he is able openly to be himself; is able to accept the group exactly where it is even though it may be highly defensive and rigid; who trusts the group process; who spontaneously uses different approaches as they seem natural to him in the situation; who is an empathic listener; who becomes a participant in the group when he feels like it; and who serves a facilitating function when that appears to be needed. On the other hand, when the facilitator is to any degree "phony" or ingenuine; when he has an unspoken goal for the group to reach; when he is over eager for progress; when he pushes or probes an individual; when he acts in terms of some formula rather than in terms of immediate group situation; when he consciously uses a technique; when he is overly concerned with his own problems and takes more than his share of time with the group, then any of these qualities can make him less than adequate as a facilitator.

In the second place we have learned, as I mentioned earlier, that there is a distinct gradation of difficulty in initiating the process of encounter groups. The higher the status and the more the individual has to defend, then the more difficult it is for him to be open with his colleagues and subordinates. The lower the status, the easier it is for the individual to become thoroughly involved in being himself with the others in the group.

The third learning I have also mentioned earlier. The encounter group experience seems to effect its first and most easily noticeable change in the close personal relationships of the individual. Next is the change in those relationships where he feels himself to be powerful. The change is somewhat slower in relation to one's peer groups and change seems to come last in organizational structure and organizational procedures.

In the fourth place we have learned the importance of immediate and available follow-up help. Many people who have a splendid experience in the encounter group itself wish very much in the days and weeks which follow for someone with whom they could talk out certain of the things that are happening to them. This is why in the Immaculate Heart system we have already trained a score of facilitators from the system itself and plan to extend this further. In one way or another we wish to make a helping person available to each group and each member of the group very soon after any encounter experience.

Another learning, or re-learning, is the fact that all significant learning is to some degree painful and involves turbulence within the individual and within the system. Thus, some of the schools we have worked with have been literally transformed while in other schools we have learned that the encounter group has led to a certain amount of turbulence and division, dividing members into those who favor more open communication and more innovative change and those who see all these elements as a troublesome or even destructive influence in the life of the school. Although this turbulence may have a positive effect in the long run, it creates difficult current problems for the administrator and the faculty.

Finally, we have come to recognize that we are not simply studying the impact of encounter groups on an educational system. A more truthful statement would be that we are studying the impact of a dedicated group of individuals who are interested in persons, who want to communicate with persons, and who are interested in facilitating communication between persons, upon an educational system. Thus, where changes come about it may have been through the joint planning sessions, through the countless individual contacts, though occasional talks to faculty and student groups, through correspondence with the members of our groups, through follow-up visits, and many other relationships as well as through the encounter groups themselves. In short, we have come to see that encounter groups used solely as a "technique" could be as futile in an educational system as any other approach.

We have also come to realize the "wisdom" of the group in initiating things for themselves in which they use facilitators in ways we would never have dreamed of in advance. These are some of our preliminary learnings.

SOME CONCLUDING REMARKS

Why am I so interested in promoting self-directed change in education?

1. I have come to believe that it is terribly urgent that changingness become the central element and aim of American education. I am not speaking of change which goes from a static *here* to a static *there*, but of *continuing* change, fluidity, adaptiveness—a continuing constructive turmoil if you will.

2. I deeply believe in self-directed, self-chosen change whether for the individual, the group, the organization, or the body politic. Hence I am opposed to the idea of change being imposed on schools or their members.

3. I have become more and more convinced that we have an effective instrument for *self-directed change*—in persons, in groups, and in organizations—and that this instrument *works.* We are currently carrying on empirical research to get the hard evidence of this but I think it is clearly evident that the Immaculate Heart system can never again be the same.

4. I see the basic encounter group as a significant means of freeing an educational system so that it can become involved in a self-directed changingness, involved in a continuing *process* of alteration and revitalization of the organization and the persons who make up that organization.

5. I have come to believe that *teaching* is largely useless and futile and yet it is the central focus of almost all educational effort. I believe it is *learning* and the *facilitation* of learning which should be our central focus and I believe the encounter group, when it permeates a whole educational system, discourages *teaching* and promotes a vital, personal, human facilitation of *learning.*

EDUCATIONAL EXPERIMENTAL STATIONS, DATA TABLES, AND MEMORIES FOR COURSES ARE EFFECTIVE SUPPLEMENTS FOR THE LABORATORY*

Ernst Z. Rothkopf, Supervisor, Learning and Instructional Processes Research Group, Bell Telephone Laboratories, Inc., Murray Hill, N.J.

The psychological and educational research communities are earnestly trying to understand the basic processes in learning and instruction. They have endeavored to build theories and to build up a store of knowledge through both basic and applied experiments. This work is of great long-range importance. The hope exists that it may someday be possible to design effective instructional means and systems by deductive elaboration from theory and fundamental knowledge.

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*The author is indebted to Professor E. B. Coleman of the University of Texas, El Paso, for sharing many of his farsighted views about the use of data tables in educational applications.

The goals which these psychologists and educational researchers have set for themselves are ambitious. It would be a mistake to underestimate the technical difficulties which must be overcome in order for this work to succeed. The subject matter for the science of learning and the technology of teaching is a good deal more complex than that of the physical sciences.

Because it seems important to improve the rational basis of instruction at an early date, it would be prudent to supplement traditional lines of research by other methods. On the assumption that a good deal will have been said to the Subcommittee on Education about the importance of basic research, I would like to limit my comments to other methods which I feel should be considered.

SOME PROPOSALS

Understanding of instructional processes, and with it design techniques for instructional methods, will be improved when a better data base becomes available for induction. Formal experiments are one way for providing such a data base. Another is to make instructional activities more explicit and in this way more directly reachable by induction. The desired data base can be obtained by at least three methods:

1. Special experimental school settings that would operate pretty much like agricultural experimental stations collecting both data for planned analysis as well as data which may be analyzed when techniques become available or when need arises.
2. Invest money in the documentation of transactions in schools and in documenting the results of these transactions. This may practically be done by some documentation on a very wide scale and by very extensive documentation in a few schools.
3. The systematic empirical analysis of the knowledge and performance required in certain important and stable academic skills, e.g., mathematics, reading, utilization of written language.

These ideas are discussed in somewhat greater detail below.

1. Educational Experimental Stations.

Little more has to be said about this idea since its equivalent in agriculture is well known. In my opinion, the parallels between scientific agriculture circa 1800 and the current state of affairs in education is fairly strong. Skillful agriculture had been practiced for thousands of years. But in 1800, there was still considerable dispute about the sources from which plants derived carbon, the main constituent of their ash. Nor were the sources of nitrogen proven. One of the events which started agriculture towards its present accomplishments was the establishment of Rothamsted experimental station in England around 1837. Here the methods, though not necessarily the substantive knowledge, of chemistry were brought to bear on agricultural questions.

Such stations are needed for the improvement in instruction. They should be places where well documented instructional approaches could be tried over many years under carefully regulated and observed conditions. In practice this probably means establishing a system of experimental schools that would have both scientists and teachers on the staff and carrying out long-range evaluative programs.

These schools are distinguished from others by careful documentation of what goes on and by careful measurement of both input and results. It would be a mistake to subject such enterprises to strong time pressures and to place too much emphasis on innovation. Woefully little is known about the effectiveness of current practices and educational experimental stations are means of providing such information.

2. Documentation of Instruction in Schools.

Another way of providing a data base for instruction is by investment in the documentation of ordinary instruction in schools. We know at present very little detail of what goes on in classrooms and the evaluation of outcomes concentrates very heavily on the evaluation of students. Further records of instructional actions and results are not well maintained in time.

What is needed is a memory for courses of instruction. Such a memory could be provided by carefully measuring student characteristics, documenting classroom transactions, and measuring outcomes and maintaining records of these from year to year.

Both short-term and long-term records may help in the improvement of instruction.

SHORT-TERM RECORDS

Short-term records can be an important instructional aid because they provide a teacher with means for assessing the progress of his class, a memory to keep track of this progress during a course, and a memory that cumulates the records of his course from year to year. Here are some ways this might be done.

Teachers should make lists of their course objectives that are both detailed and very explicit. These lists should be written in terms of what students should be able to do at the end of the course. A list of objectives should also state the behavioral prerequisities, i.e., what the students should be able to do when they enter the course. These are difficult chores but instructors ought to be made to do it and to file this list in some place where prospective students can read it. This list should also be deposited with the course memory.

It would pay teachers to make up good multiple choice questions to find out whether various sub-objectives had been achieved. Now it is not popular to use multiple-choice questions. Critics claim that such questions do not measure the rich, creamy goodness with which they fill students. It is true that some multiple-choice questions are useless. With some care, however, highly sensitive multiple-choice questions can be written. I am not advising that they be used exclusively. But I am proposing that they be used a lot, singly or in groups, and that the results be tabulated as quickly as possible. If the questions have been written well, performance on these multiple-choice questions becomes a tangible record which the teacher can use to regulate his own activities. These records can also be used to revise courses from year to year.

For a teacher who has done this hard work well and who has prepared a list of behavioral objectives and prepared an extensive set of questions, a useful instructional aid might be an instructional clerk. This clerk would quickly tally the question papers handed in by the students and quickly calculate some summary statistic for the instructor. The larger the enrollment in a particular course, the more important such a tally clerk becomes.

Paper tests and clerks may be too slow for use in class. A variety of devices of various degrees of technical sophistication are now becoming commercially available that will do the job better. These devices generally provide each student with a multiple-choice key and a teacher's console that tallies students' choices automatically and displays summary data (percent choices) immediately. With the cheaper devices, information about proportions of various choices is lost when the instructor goes on. For the more sophisticated (and much more expensive) devices this information is saved, sometimes in computer-readable forms such as perforated paper tape. Commercial devices of this type range in price from $2000 to $22,000. Direct computer links have also been tried.

Human or machine aid in assessing student progress and in maintaining records may be a very good instructional investment, indeed, if instructors consistently prepare themselves in the proper way.

Maintaining progress records for the course allows the instructor to evaluate his own effectiveness. It also allows him to plot the progress of individual students, although the manner in which various performance records must be interpreted in order to yield diagnosis and prescriptions must depend for the moment largely on the inventiveness of the instructor. There is little doubt in my mind that in the hands of an energetic, industrious, and inventive instructor, devices of the type described above or human tally clerks will pay off extremely well. *On the other hand, for the instructor without specified performance objectives and without funds of questions these instructional aids, as any other, will be of unknown value.*

One unknown question in connection with these tally keepers is how quickly results from the diagnostic performance tests must be available to the instructor and how frequently such tests need to be administered in order to be useful. If the answer is *very frequently* and that the results *must be immediately available*—or rather, *that the instructor can* utilize *immediately available results well*—then a tally clerk or a classroom multiple-choice machine seems desirable. If, on the other hand, instructors cannot make use of information so rapidly, then computer readable, mark-sensing cards may be the answer. The cards could be collected at the end of the class, processed in the computer, and desired summary information be made available to the instructor in a few hours' period.

A Long-Term Memory for a Course

There are several reasons why an instructional course should have a long-term memory. It pays to keep detailed records about a course even if not all the uses for this record can be immediately foreseen. Man gains when he can evaluate his experience and bring this evaluation to bear on future ventures. Instructors come and go while courses go on.

Variability among students in talent, background, and style is great. A class of customary size may be far too small a sample to reach adequate conclusions about the distribution of these traits in the student population. A course with a memory for its past is therefore an instrument for the study of the distribution of various important student characteristics in a particular student population. Such a memory can also be used to evaluate and improve the way a particular subject matter is taught.

To build a memory for a course requires some standard tests. These tests do not have to be kept forever. Items may be dropped as problems are recognized in connection with interpretation. Individual performance records on these tests as well as other pertinent information about students, most practically in computer-readable form, ought to be maintained by some central office such as the Education and Training Department. Programs for querying these records should be available. The instructor, or anyone else, may then query these records as needed.

A realistic look at the proposals made above indicates one main stumbling block. This is likely to be the reluctance of instructors to prepare course objectives sufficiently explicit and of adequate detail to generate the large numbers of test questions that are required for the execution of plans such as those described above. Their reluctance is probably due to the fact that it is not easy to do this. The solution: *make it easier for them.* Give them instructor's aids.

3. Transforming Scientific Knowledge into Useful Tables

The Regional Educational Laboratories and the R and D Centers were established to bridge the gap between science and application, but education has not yet built a bridge that remotely approximates the size or efficiency of the systems developed by the aerospace industries, medicine, or agriculture.

Scientific knowledge
Routine engineering
Application

In an article to appear this spring,[1] Coleman offers an explanation of education's inefficiency in applying the findings of basic science. He argues that the relation between education (or specifically, elementary reading) and its underlying sciences requires that the scientific knowledge be transformed before any great amount of educational engineering will be possible.

The essence of engineering involves manipulating numbers (or measures) in order to predict what will happen when analogous manipulations are performed upon things. But the sciences most relevant to reading are organized in terms of hypothetical constructs, not measures. In psychology, for example, knowledge about the transfer effect of language habits is organized under such constructs as meaningfulness (*m*) unit-sequence effects, functional fixedness, etc. To be of use to a reading engineer, this knowledge must be transformed into tables of precise measures that he can manipulate to predict the behavior of a child in a classroom. For instance, he needs to know the transfer effect of a specific English spelling rule when a child sounds out a given irregular word.

An engineer can transform knowledge from the physical sciences into useful tables with straightforward mathematical operations, but the experiments that generated knowledge of interest to reading were usually performed upon learner populations such as college sophomores and upon language populations such as nonsense syllables. There are no mathematical formulas for transforming such knowledge. There are no tables that calibrate the words, letters, phonemes, spelling rules, phonic rules, and other units which compose elementary reading programs. The publishers and writers who try to put the right materials together into an elementary program are in the position of a medieval craftsman trying to put together a bridge with only crude guesses about the characteristics of his materials.

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[1] E. B. Coleman, "Collecting a Data Base for a Reading Technology, Journal of Educational Psychology," in press.

To provide tables that calibrate the language units that compose reading programs, experiments must be replicated upon populations of direct interest to reading—upon six-year-olds memorizing letter-sound associations, upon children learning to read common words from flashcards, upon children learning to print, etc. In short, another box must be inserted in the flow chart.

Scientific knowledge.
Scientific knowledge transformed into tables or precise calibrations of the populations and behaviors that interest education.
Routine engineering.
Application.

Once a data base of systematic tables becomes available, engineering breakthroughs can be expected for the simple reason that manipulating numbers is more efficient than manipulating things.

Coleman's monograph presented several transforming experiments that yielded useful tables. His experiments calibrated for learnability the words, letters, and other linguistic elements that constitute a reading program. By using the tables, the Appalachia Educational Laboratory selected the most easily learned words and letters and ordered them in the most easily learned sequence. The result of this approximation to educational engineering is a beginning reading program that starts kindergartners reading immediately—during the first half-hour lesson.

The program assumes that the most effective way to teach a complicated skill such as reading is to strip it to its base concept—to eliminate the nonessentials until the learner can perform the high order skills of reading the first time he tries. Then, because the high-order skills provide a mental framework into which to fit the low-order skills, the learner adds them with minimum effort.

Using the tables, it is possible to strip reading to its base concept—that printed words tell the child what to say and different words tell him different things to say. Using cartoons, it is possible to write a story with only one or two words, and using the tables, it is possible to select words that the child can learn with minimum effort. Then, by presenting the story as an animated cartoon in which the words spoken by the characters expand on screen just as they are enunciated, it is possible to eliminate difficult preskills such as page turning, left-right progression, selecting the most important details, attending to the details in the proper sequence, etc. It is possible to strip away nonessentials and teach the base concept in one lesson. An immediately rewarding way to teach reading becomes possible; the child can teach himself as he entertains himself by reading a finely-graded progression of animated cartoons engineered to fit his developing skills.

Coleman's tables suggest that phonics may soon be taught by similar techniques. In fact, the Appalachian program asks kindergarteners to sound out an unfamiliar word on the third day of instruction.

Research that contributes to basic scientific knowledge is expensive. It is performed by a handful of gifted, insightful men. Furthermore, these men must expend a large proportion of thought for small proportions of data gathered.

On the other hand, research that transforms scientific knowledge into tables useful to an educational engineer is relatively inexpensive. With a slight amount of central direction, inexperienced researchers can collect such tables. In fact, much of the data reported in Coleman's monograph is the output of a group of relatively inexperienced people scattered in several universities throughout the United States and Canada. Insightful educational researchers are so scarce that management techniques must be developed that will enable each one to direct an extensive hierarchy of subordinates. The informal group that Coleman has organized to collect the tables for a reading technology may be a model for such research management.

CONCLUSIONS

This paper has proposed three additional ways, besides traditional experimentation, to work towards an improved rational basis for instruction. Experimental stations and the production of data tables are close enough to the style of scientific research to make it clear how such enterprises can produce useful knowledge. The third method, extensive documentation of transactions in selected schools, will work because it will tend to make the complex transactions in school more explicit and therefore more readily reachable by the mind of man.

D. & R. IN R. & D.: THE IMPLICATIONS OF DREAMS AND REALITIES FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

Richard E. Schutz, Director, Southwest Regional Laboratory for Educational Research and Development, Inglewood, Calif.

As the nation begins to allot resources directed to the improvement of its schools, priority attention must be given to creating an R&D capability in education to contribute to this end. Building national educational research and development capability is not a simple matter, and there are unfortunately few precedents and wide disagreement as to desirable courses of action.

Agreement that efforts to improve the nation's educational practice should reasonably give due attention to research and development is easy. But the nation lacks experience to define the meaning of "due attention," and there is considerable current confusion concerning both the potential and the problems of educational research and development. A large share of this confusion stems from a failure to recognize that any research and development program must focus on both the present and the future. While anticipated outcomes are always bright visions of the future, current operating conditions are always grim acknowledgments of present constraints. Exclusive attention to only one of these states creates either unrealizable expectations and aspirations or devastating frustration and disillusionment.

The conventional means of achieving balance is to rely on experience concerning the magnitude of time, cost, and resources required to accomplish given outcomes. This paper will draw on the limited history and present status of the Federal R&D program in education to suggest broad characteristics of Federal legislation relating to educational improvement in general and educational R&D in particular.

PAST DREAMS

The enabling scaffold of the current national educational R&D program was constructed in the dream world context of the Elementary and Secondary Education Act of 1965. The vision was broad and expansive. Title I would provide quality education for the children of the poor. This would be done by purchasing the new and glamorous materials available from the "knowledge industry" via Title II. Since some difficulty could be expected in effecting major changes in schools without external stimulation, Title III would provide liberally for innovation and supplementation mechanisms. The scientific and engineering wherewithal to stoke the overall production would eventuate from the expanded R&D program and the new regional laboratories of Title IV. And finally, as protection that the new-found capability of the nation's educational system would not disrupt the historical State and Federal political balance, Title V would strengthen State departments of education to check the anticipated growth at the Federal level.

It could be argued with equal cogency that ESEA was either too little and too late or too much and too soon. As it happened, the legislation was in between, with dangerous consequences, but important potential for learning.

The following outcomes can be identified. Although the educational problems of inner cities and other environmentally impoverished areas are now even more acute than in 1965, it is now clear that finances alone will not ameliorate such problems.

Although the shelves of the "knowledge industry" proved barren, if not bare, the private sector has achieved a much clearer conception of both the complexities and the potential of the education market.

Although the ideology of innovation proved inadequate to effect educational improvement, a much larger sector of the public is now informed concerning the weaknesses and constraints of prevailing educational practice.

Although research and development did not instantly solve educational problems, the management skills, qualified personnel, and technological resources for producing such solutions are now a good deal stronger.

Although State departments of education were not transformed, a number have infused more capable staff and introduced promising organizational and management modifications.

Ironically, greater public attention has been focused on the failure of ESEA to accomplish its objective quickly and easily, rather than on the rapid learning the legislation stimulated. Dangerously, there are strong tendencies to convert the dreams into a nightmare by rejecting the gains that have been made, consonant with a self-destructive mechanism which is not limited to education but certainly includes education at the present time. The material wealth and technological resources of the nation have encouraged us to raise our level of aspirations for the attainment of more perfect human conditions. Out of our hopes, we insist on creating magicians out of leaders and converting into a magic wand. Publicized hopes lead to expectations; unfulfilled expectations lead to disillusionment; and organized disillusion leads to destructive attacks on the institutions which initially provided the basis for the hopes. The recent history of the Federal R&D program in education illustrates this cycle clearly. In the currently charged atmosphere of aspiration-frustration, it is inevitable that any educational research and development effort will be frantically embraced and willfully misunderstood, often by people who should know better.

Present Dreams and Realities

Three characteristics of the prevailing state-of-the-art in educational research and development warrant careful consideration:

1. *The Dream:* Wide-scale improvement in educational practice is immediately possible.

The Reality: The means of effecting educational improvement are themselves currently unknown.

While the objective of converting available relevant knowledge into a form that permits improved educational practice is reasonable, it is erroneous to assume that the means for doing this are presently clear. Whereas mankind learned the method of the method of invention in the nineteenth century, serious attempts to extend this knowledge to human enhancement endeavors such as education are just beginning.

From an R&D perspective, education is still in a stage more analogous to the medieval than to the modern era. The education profession still tends to appeal to authority for its professional support, to engage in prescientific debate, and to treat such nominalizations as "cost/benefits" and "individualized instruction" as substantiations rather than metaphors. Current state-of-the-art attempts to translate knowledge into educational action will, in a future perspective, inevitably appear as clumsy and simplistic as the past efforts of the alchemists and other prescientific endeavors in the physical sciences appear in the present perspective.

But the present primitive state of educational development technology should in no sense be considered a source of professional defensiveness or embarrassment. Quite the opposite, since the field is progressing rapidly. There was a time very recently when man lacked the technology to get to the moon, or to eliminate polio. But this was viewed as cause for future effort, not for denigrating past efforts. Man still lacks the wherewithal to get to another planet and to cure cancer, but these are treated as challenges to be overcome rather than as failures to be justified.

Educational improvement can be treated similarly. To do so, however, requires admitting distinctions between constructs and construction, between "what" and "how to." Such constructs as educational "program planning and budgeting systems" and "computer-assisted instruction" are not now operational alternatives; they remain to be constructed. Irrespective of their potential, present embodiments of such slogans are artificial and superficial, if not empty fictions. Converting such constructs into constructions requires more than publicity and desire. Accomplishing the objectives implicit in such noble objectives as "eliminating illiteracy" and "equal educational achievement" will require more concentrated, organized intellectual and financial resources than either the Federal government or the education profession is currently able to conceptualize, let alone currently amass. There is no guarantee that such objectives can be accomplished, but neither is there a guarantee that we can eliminate cancer or air pollution, or accomplish any other of a number of other highly desirable human outcomes.

2. *The Dream:* More funds are the key to enhancing educational R&D capability.

The Reality: More funds are not enough.

More funds are absolutely necessary, but are not sufficient. With less than one-half of 1 percent of educational expenditures currently devoted to R&D, it is clear that rapid multiples of funding are imperative. At the same time, the present underfunded state of educational R&D creates a situation in which the enterprise itself must be consciously nourished if it is to provide the energizing mechanism for educational change and improvement. The effort is at least as complicated and intricate as efforts to forward an underdeveloped nation and warrants equal attention and finesse.

Public support of education is often compared with public support in other areas such as defense or space, with the implication that educational expenditures represent misplaced priorities. Such polemics fail to recognize that over a period of time, these areas have created both management and technological capability to support large expenditures. It has been said that the greatest learning by physical scientists during World War II was how to spend money on a large scale. If educational R&D is to make analogous contributions, analogous management and technology must be extended to educational R&D endeavors. This extension is not possible via a direct extrapolation; education does have unique characteristics, as the "knowledge industry" has discovered at some cost.

The creation of a technologically-based support system related to education in the same supportive sense that other industries are related to the users they serve will require modification of several currently prevailing orientations on the part of policy makers in all sectors. The first is a tendency to regard education as a mystical matter which should be reversed, not investigated. Other human-focused fields have made rapid progress after cutting through the artificial mystery currently associated with education. Bronowski's comment on biology is applicable:

> I would say, on the whole, that biologists have been inspired . . . with destroying an artificial sense of mystery . . . motivated by people like the physicist Leo Szilard saying, 'Look, I just don't believe that biology is as mysterious as biologists have made it out. I think that if you go for some specific things, you'll be able to find specific answers.' And they turned out to be right. People like this have wanted to destroy that kind of candy philosophy with which a good deal of biology used to be surrounded. The attitude which says 'Don't let us touch it. It will all vanish, like a rainbow under our fingers'. (Bronowski, 1969, p. 86).

A second prevailing orientation which mitigates against a more capable "knowledge industry" is the dominance of educational R&D by research rather than development priorities. Only since 1965 has there been any recognition in education that the conversion of research into practice requires directed effort. The field of educational development simply did not exist. In other fields there is a clear recognition that research activities which lead to the production of knowledge recorded in reports differs from development activities which lead to the production of useful materials, devices, systems, and methods. Although the funding, monitoring, staffing, and management requirements of research and development efforts differ considerably, the unique requirements for development were completely ignored. The view of educational researchers was that their efforts contributed directly to educational improvement and school personnel shared in the illusion that educational research was useful to them in their everyday work. Thus, educational R&D was all R and no D. While some efforts have been made to readjust the balance, the current emphasis is still disproportional in the direction of research.

The dominance of a research orientation has created a "small project" style of thinking by funding sources. The individual university researcher and his associated graduate students have been the modal support unit, with projects expected to be completed in not more than three years. This is a far cry from the long-term, programmatic, carefully sequenced R&D efforts in other high priority public fields. Educational R&D is all "small science." Until it learns how also to conduct "big science," it is unreasonable to expect more than small science outcomes.

A third prevailing orientation is the tendency to avoid descriptions of education in terms of achievable outcomes for youngsters. By assuming general responsibility for unspecified educational consequences and refusing to assume specific responsibilities for any educational consequences, school officials are in a most vulnerable position. The orientation precludes a reasonable defense for criticism from any quarter. Moreover, it precludes any offense; there is no basis for specifying requirements in a manner feasible for the industrial sector to attempt to meet. It also lets the researcher "off the hook" prematurely with the misplaced confidence that he has solved problems which in reality have not yet been considered. The result is that the classroom is a closed social system with the teacher almost solely responsible for its internal functioning. A concomitant result is that instruction is conducted under conditions of extreme environmental simplicity. Compared with even the typical home, the classroom is barren. This condition will not be ameliorated by loading the classroom with equipment and machinery developed for other users. Considering the teacher as user with defined responsibilities for attaining specified instructional outcomes creates a radically different perspective for both the industrial and the educational community.

3. *The Dream:* Large manpower pools of qualified personnel are immediately available for educational R&D.

The Reality: The pool is extremely small.

The total manpower resources estimated by Clark and Hopkins (1969) to be available for all aspects of educational research, development, and diffusion are less than 6000. Since only a small proportion of this overall total consists of professional specialists, it is quite obvious that very much is being expected of very few relative to manpower availability in other fields.

Of equal concern is the distribution and organization of the available personnel for educational development. Few critical masses of personnel currently exist and those which do have tenuous and unstable organizational support bases.

The personnel shortage is particularly acute in development. The university influence tends to assign greater prestige to research so that development is at a disadvantage in attracting highly competent personnel. Just as physicists can more readily adapt to engineering requirements than engineers to physics, so it is more readily possible for researchers than for schoolmen to contribute to development efforts. Each, however, must modify his professional mode to adjust to the managed-output-over-time characteristics of development. Until greater incentives are available for such adjustments and until training programs are established and begin to generate new personnel, qualified manpower capability will continue as a critical limitation.

Of critical concern is the shortage of managerial personnel for educational development. Again, the academic antecedents of the field have tended to create a confusion between administration and management and to underestimate the necessity for the function in a development context. Educational development endeavors nationally over the next five- to ten-year period are likely to be limited by the availability of competent managerial personnel rather than by the range of development options. While there is likely to be great competition for personnel with instructional development competence and experience generally, the most severe shortage will be persons who are able and willing to plan, schedule, and review development efforts. Educational R&D managerial manpower requirements are just beginning to be recognized by the Federal government and by the university community, so that the only supply mechanism in sight is on-the-job training. This is a slow process. Creating the personnel resources and nurturing centers of excellence to support massive educational improvement efforts is itself a major national problem.

FUTURE IMPLICATIONS

The Federal government is the key factor in determining whether present dreams will be converted into future realities which promote the public welfare or into nightmares which further aggrevate an already dangerous national situation. Of critical importance in Federal education legislation is a continued emphasis on accountability and evaluation of outcomes. Utility and dependability of outcomes, time, and cost are as relevant to education as to other areas of life. While the education profession is not accustomed to viewing its efforts in this perspective, continued legislative insistence on these criteria will continue to stimulate desirable and productive utilizaton of national resources.

Federal education legislation has heretofore not assigned priority to technology transfer objectives. The concern here is not with the equipment connotations of technology, but with codified techniques that have been learned and will lead to predictable outcomes under specified circumstances. Unfortunately, the technology of technology transfer is itself primitive, even in areas such as space and defense. However, even a modicum of emphasis on cumulative, programmatic effort in education can be expected to have great impact. The preoccupation of education with *problem definition* rather than *solution production* can be reduced by legislative mandate for efforts designed to "push" solutions rather than to be "pulled" by problems.

A corollary element is recognition of R&D program planning, reviewing, and scheduling requirements. This element has ramifications ranging from the Federal to the operational levels. Until some priority is assigned to the sequential accomplishment of prespecified outcomes, it is inevitable that a high proportion of funds will be devoted to highflown rhetoric, resulting in nothing more valuable than isolated "pieces of wheels."

The foregoing implications relate to provisions for insuring responsible utilization of Federal funds for educational improvement through research and development. Of equal importance is a longer range legislative perspective and fund appropriation. At the present time, the entire R&D program monitored by the U.S. Office of Education is contingent upon annual Congressional appropriations. It is a totally unreasonable constraint to conduct long-range R&D efforts on a year-to-year contingency basis. While this is now being done, the resulting inefficiencies and impossibilities are at great public cost.

Educational R&D is at much the same stage that defense R&D was prior to World War II. The perspective of John Platt (1969) captures the essence of the approach recommended.

> . . . 30 years is too long, and 3 months is too short, to cope with the major crises that might destroy us in the next 10 years. Our urgent problems now are more like wartime problems, where we need to work as rapidly as is consistent with largescale effectiveness. We need to think rather in terms of a 3-year time scale—or more broadly, a 1- to 5-year time scale. In World War II, the ten thousand scientists who were mobilized for war research knew they did not have 30 years, or even 10 years, to come up with answers. But they did have time for the new research, design, and construction that brought some sonar and radar and atomic energy to operational effectiveness within 1 to 4 years. Today we need the same large-scale mobilization for innovation and action and the same sense of constructive urgency.

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SOCIAL STUDIES CURRICULUM AND RESEARCH NEEDS FOR THE SEVENTIES

James P. Shaver, Professor of Education and Chairman, Bureau of Educational Research, Utah State University, Logan, Utah

Social studies education in the public schools has long taken on what is perhaps the most important function of formal schooling in a democracy—citizenship education. In a society committed to the dignity of the individual—including his right and ability to participate either directly or indirectly through elections in the important decisions facing the society—it is not surprising that statements of objectives for the public schools are replete not just with concerns for citizenship education, but with specific allusions to the need to help potential citizens develop the thinking skills that will allow them to deal rationally with the basic issues facing the society.

Events of the past few months, although perhaps no more than during other periods of our history, have graphically demonstrated the need for an informed, intelligent citizenry. It has also been made clear that many of the problems of our society spring from the need for searching appraisal of our values and their relationships to the issues which must be decided if the nation is to move toward its goal of greater dignity for all. Assisting people to learn better how to appraise values is undoubtedly a major educational challenge, because it is of critical importance to the society.

Certainly one would expect that the portion of the school curriculum that has taken on the tremendous challenge of citizenship education, including educating for more intelligent thinking and value appraisal, would receive a major portion of governmental allocations for curriculum development and research. That is, the interests of the society should be reflected in financial support.

Many projects have been funded under "Project Social Studies," first under the Cooperative Research Act and the National Science Foundation and later under the Elementary and Secondary Education Act. Yet the funding has not reached the levels provided for the science and mathematics curriculum work after the scare of the first Sputnik. Paradoxically, too, much of the aid has gone to projects concerned with *social science education* rather than with *social studies education*. The distinction between the two is important to those concerned with formulating educational policy at the national level vis-à-vis elementary and secondary education.

SOCIAL SCIENCE VERSUS SOCIAL STUDIES

The social scientist is primarily, and properly, concerned with the adequate description of social reality. His formulations are often esoteric and complex, but their basic purpose is the explanation of how people in groups function—whether in the political, economic, or social arenas. In his work, the social scientist is beholden to two types of judgments by his academic peers: Are his descriptions and explanations adequate; and, underlying the first question, are his techniques and methodologies for exploring social reality appropriate?

Social science education is an offshoot of social science activity. It involves the transmitting of the knowledge of the social sciences. This transmission involves communication of both the descriptions and explanations of society and the methodologies used to arrive at that knowledge. Judgments about the soundness of social science education are straightforward, if not always simple. The basic question asked of any course in social science—sociology, economics, political science, anthropology, psychology, history (which studies the social realities of the past)—is whether the content is consistent with the latest findings in the field and with the latest techniques of verifying findings. (Of course, anyone who has been through college, and more recently high school, knows that the primary emphasis is on transmitting the findings; very little attention, at least on the undergraduate level, is given to the verification techniques.)

The Social Scientist and Values

The social scientist is concerned with values in two senses. First, as part of his study, he is concerned to describe the values of social groups and to determine the effects of the values on social behavior. Values, then, are an aspect of cultural and of individual behavior to be studied like any other phenomenon. In addition, there are values—or at least there is one basic value—implicit in the very practice of social science. It has been put well by Bronowski:

> In practicing science, we accept from the outset an end which is laid down for us. The end of science is to discover what is true about the world. The activity of science is directed to seek the truth, and it is judged by that criterion. We can practice science only if we value the truth.*

Note that the scientitst's role is not to evaluate, in the sense of deciding which values are most important.

Policy Decisions and Values

Decisions about the direction which our society should take are basically ethical questions. That is, they are questions about proper aims and actions. And, in deciding what aims and actions are proper for the society and the individuals comprising the society, values are paramount. In functioning as a citizen—whether as a "lay" citizen or a governmental agent of the citizenry—one must clearly be concerned not just with describing values or with the pursuit of empirical truth, but with the clarification and weighing of the basic commitments of the society. Only in this way can policy decisions about such matters as tax reform and measures to reduce racial discrimination, to preserve law and order, to maintain rights of personal conscience be made rationally in the light of that which the society holds to be important. Social science education, then, despite the importance of the findings and the empirical philosophies and methodologies of the social sciences, is not sufficient to the needs of citizenship education.

The above point is not clear to many educators; so it would be a remarkable layman who would be aware of it. In fact, the layman's view, reflected in the heavy support of curriculum development projects in the social sciences at the elementary and secondary levels, undoubtedly is due in large part to the educationist's failure to set his own thinking straight.

Social Studies and Values

Social studies education has traditionally been defined by social studies educators as the social sciences adapted and simplified for pedagogical purposes. According to this definition, what goes on in social studies education is to be predetermined by the interests and activities of social scientists. The definition says nothing about the obligations of citizenship education, unless we take it to imply that all that is needed for citizenship education is social science knowledge. However, the preceding brief discussion of the position of the social

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*J. Bronowski. *The Identity of Man*. Garden City, N.Y.: The Natural History Press, 1965, pp. 99–100.

sciences in regard to values belies that assumption. And, serious questions can be raised as to whether even that knowledge of the social sciences which is relevant to the functioning citizen is best communicated via a curricular structure based on the investigations and thinking of social scientists.

One of the great paradoxes of American education is the commitment in social studies to citizenship education on the one hand and, on the other hand, the definition of social studies education which rests on the social sciences and ignores the realities of political functioning in a democratic society. To develop a definition consistent with the frequently stated aims of social studies education, one must begin with the recognition that social studies education is basically general education. That is, social studies courses (as opposed to economics or sociology courses, which are usually high school electives) are required of *all* students in the school, and therefore must be based on consideration of the needs of all students, not just those who are interested in the abstract study of society and/or are college bound.

A more viable definition of social studies is that it is that part of the elementary and secondary school curriculum centrally concerned with the responsibilities of formal schooling for citizenship education. In moving from this definition to a curriculum, one must contemplate carefully the dimensions of political functioning in a democratic society and determine what should make up the curriculum in order to assist people in developing the necessary competencies for democratic responsibility. The social studies curriculum by this definition is not predetermined by the predilections of the social scientist, but is predicated on the demands of citizenship education, drawing on the social sciences as they can contribute. In particular, the development of intellectual abilities, especially in the area of clarifying and weighing values, becomes a focal criterion for curricular decisions.

This view of the social studies curriculum is important to those who are responsible for shaping national legislation dealing with elementary and secondary education.

IMPLICATIONS FOR THE SEVENTIES

The implications of the concern for citizenship education and of the social science-social studies distinction are great when one considers the funding of research and curriculum development. In the area of social science research, much is yet to be known about the development of values, although the research in political socialization has made it clear that political values and attitudes toward government are well developed before the child ever enters the first grade, and certainly before he leaves grade school. And, in a research area which can legitimately be claimed by both social science and educational research, little is known yet about how to educate, about how people learn—whether it be the elements of a sound citizenship education program or any other aspect of the curriculum.

This claim—that we know little about the learning process—should surprise no one. Psychology, and in particular the study of learning, is a relatively recent field of study—as compared, for example, to physics and chemistry. Moreover, the subject matter—the human mind and human behavior—is certainly as complex, if not more so, than the subject matter of the physical sciences. Furthermore, the resources committed to research in this area have been a pittance as compared to the physical sciences. One can only wonder what advances in our knowledge of human learning would result from a commitment to research in human learning comparable to that for Project Manhattan or the moon landing (and now, it appears, the Mars landing) projects. If anything, it is amazing that we know as much as we do about the process of learning—given not just a shortage of commitment reflected in funding, but the attendant shortage of qualified research personnel.

Social Studies Curriculum Needs

Turning specifically to the area of the social studies curriculum, we find serious implications for Federal programs for education. Despite the identification of the social studies curriculum with the grave responsibilities and exciting issues of education for citizenship in a democracy, students commonly report their classes in this area to be of little interest, and in fact, of little relevance to their out-of-school lives. Furthermore, the little evidence available suggests that the social studies (or the total school for that matter) has little effect on later citizenship behavior, either in terms of increased participation or clear commitment to the values of the American creed. In essence, the evidence on participation and value commitment simply confirms the validity of the common discontent of high school students with their social studies programs.

Given the society's commitment to rational citizen participation, and in the light of the recent tendencies toward use of extra-rational and extra-legal means for stimulating the consideration of issues and pushing for action to handled them, it seems obvious that social studies *qua* social studies—not as a handmaiden of the social sciences—deserves considerable attention from the U.S. House of Representatives' General Subcommittee on Education.

Funds must be provided for the preparation of social studies educators intellectually equipped to deal with the massive problems of curricular philosophizing and development in this critical area. The philosophy of social studies education has been largely ignored. Little attention has been given to developing a sound rationale for this area of curriculum, based on a careful consideration of the nature of American democracy and the role of the school in such a society. For example, does our notion of democracy (as has been implied earlier in this paper) demand participation from all citizens on all issues; and if not, what are the implications for the presently naive social studies courses aimed at participatory (especially at election time) citizenship.

Furthermore, little attention has been given to what might be termed the axiology of social studies education. Questions about the curriculum need to be raised and carefully examined in terms of values and valuing and implications for citizenship education. To suggest one matter which has received only cursory attention in social studies curriculum development: What is the role of values in the justification of national policy? Most secondary school social studies textbooks and many social studies projects (including the social science projects) treat decisionmaking (when they treat it at all) in a scientific context. That is, decisionmaking is treated as the identification of a problem, the gathering and verification of relevant data, and the drawing of conclusions therefrom.

Although policy making must undoubtedly rest on confirmed empirical information if it is to be valid, another important—probably more important—input is values. To make valid policy for the nation, one must be aware of those things which the society considers important and worthwhile. To ignore values is to ignore the structure of morality which guides individual and group action.

But the question is not just whether social studies curriculum developers have ignored values, but whether those conceptions of valuing in deciding public issues which have had an impact on the curriculum are valid. Typically, the consideration of the citizen's value judgments as a basis for the social studies curriculum has been straightforward: One clarifies his values (i.e., asks to what he is committed), decides which values are most important (arranges them in some sort of hierarchy), and then supports those policy decisions which are in line with the values highest on the hierarchy.

Although this view of decisionmaking fits the American fetish for surface consistency, it does not adequately reflect reality. For, in fact, in making decisions about important public issues the problem is not to come up with a decision that is in line with the relevant value which is highest on the hierarchy, but to choose between competing decisions, each of which is supported by one or more important values; or, put another way, to choose between competing values which do not fit into a neat, unchanging hierarchy. Debate over a public housing bill is likely to call forth appeals to the value of equality of opportunity on one side and private property rights and freedom of association on the other. Learning to make better based political-ethical decisions must include strategies for weighing conflicting values.

The purpose here is not to lay out a framework of valuing appropriate for a citizenship-oriented social studies curriculum, but to indicate sketchily the dimensions of the problem in order to emphasize that curriculum personnel are needed who have had more than the conventional training of the past. Federal money for education must go into the training of social studies people competent to develop a philosophic rationale, including considerations of axiology, for social studies education. There is a need to prepare curriculum developers with such competencies, but also to educate teacher educators (university professors) to be competent to handle such questions. For it is through their methods and curriculum courses that the teachers of America are trained. Prospective teachers will not get the kind of education referred to here in college social science courses that are typically based on the empirical findings and strategies of the social scientist. If a viable conception of citizenship education, based, among other things, on an adequate conception of the relevance of values to decision making is to permeate American education, it will be because the classroom teacher who is in day-by-day contact with children and youth understands and accepts the approach.

Along with the training of personnel, there must also be an increased emphasis on funding *social studies* (not social sciences) curriculum development projects. In fact, to have the training without increased budgeting for curriculum development, or vice versa, would not likely be very productive of the needed educational changes for the seventies. Personnel without classroom materials and teaching strategies, or curricula without people educated to handle them, are not likely to have much impact. In-service training is not the answer when such basic and pervasive changes are called for.

Of course, funding more social studies projects geared to grappling with the questions of citizenship education in a more realistic way would to some extent handle the curriculum development and university personnel problem. Although there would be an initial shortage of adequately trained personnel, the availability of funding would pull in competent people from other fields (such as philosophy), as well as encourage universities to prepare curriculum developers with the necessary competencies (just as Congressional insistance on evaluation of projects funded under the various titles of the Elementary and Secondary Education Act has led educators and researchers to take a new, fresh look at evaluation theory and practice and to begin to train professional personnel competent in curricular evaluation). Participation in the curriculum development projects would be a fertile training ground for professionals concerned with and attuned to a critical look at the demands of citizenship education in our democracy. The challenge is to set social studies education in the context of general education with careful appraisal of the objectives of instruction not just by academic scholars, but by professionals who are familiar with the modern student and his needs, in order that the failures of the new science and math programs for general education not be repeated.

Research Needs

Finally, it should be reemphasized that we really know little about the educative-learning process. And, our knowledge, or our educational practices, is not likely to advance markedly without a major allocation of resources to research and development comparable to those made to research and development in the hard sciences. Some beginnings at training educational research personnel have been made under Title IV of the Elementary and Secondary Education Act. But given the needs—both in terms of the immediate demand for researchers to participate in the evaluation demanded by the same act and in terms of the magnitude of the general research problem faced in the area of schooling and learning—the training to date is only a beginning. Hopefully, the General Subcomittee on Education will focus major attention on curriculum development needs in the social studies and on the scarcity of educational researchers to provide the knowledge base for curriculum work as well as to assess the effects of the products of curriculum development projects.

The problem is not just the shortage of trained research personnel, although the shortage of social studies-oriented research personnel is critical. There is also the qualitative question, What type of personnel are needed? Perhaps no area of the curriculum demands as imaginative an approach to research as does social studies, because the desired end product cannot finally be judged until the students become eligible to participate in political decisionmaking—although the age of participation is moving downward now that students have learned that, to be effective, they do not need to have the vote, but the will to act.

Researchers are badly needed who have been educated to break from the traditional emphasis on paper-and-pencil or structured interview assessments of learning, prepared to develop complex research designs and to apply multivariate statistical analyses in the attempt to understand the complicated workings of the human being and the impact of a curriculum which is expected to materialize years after school leaving. The unproductiveness of past educational research is only partly due to a lack of resources; it also presents a call to develop new research strategies appropriate to unraveling the complex interactions of personal, cultural, and school factors that undoubtedly have an impact on learning. The general shortage of educational researchers is great, but in the social studies the shortage is critical.

SUMMARY

To recapitulate, in considering elementary and secondary education needs for the seventies, particular attention should be paid to social studies education. This area of the curriculum, critical because it has assumed the major responsibility for citizenship education, has not received the Federal program attention it deserves, by comparison, for example, with science and mathematics education. Moreover, much money for curriculum development has gone into social science, rather than social studies, education. The result, due also in part to an inadequate definition of social studies as a handmaiden of the social sciences, has been a curriculum largely deemed irrelevant by students and having little visible impact on their later behavior as citizens.

Badly needed is a major commitment of funds to prepare professionals able to cope with the special philosophical and research demands of social studies curriculum development, teacher educators aware of and able to engage prospective social studies teachers in the issues of citizenship education. Needed also is a major support for curriculum projects focused on identifying and teaching the basic elements of citizenship. If the pressing questions about teaching and learning generally, but especially in regard to social studies education, are to be answered in the forseeable future, massive support to programs for training researchers (far beyond that provided by Title IV of the Elementary and Secondary Education Act) must also be provided.

The educational needs for the seventies are undoubtedly great in general. But nowhere are they more deserving of attention than in social studies education and in the press for more educational researchers.

EDUCATION IN THE 1970's—PROBLEMS AND PRIORITIES TOO LONG NEGLECTED

Thomas D. Sheldon, Superintendent, Baltimore City Public Schools, Baltimore, Md.

Thank you for giving me an opportunity to express some thoughts with respect to elementary and secondary educational needs for the seventies. The following are some brief comments concerning subjects which I feel will become increasingly prominent in our thinking as we begin to work toward and organize for education in the next decade. Such an approach may not provide the most desirable continuity but should serve at least to outline some of the more pressing problems which it would seem will confront us.

1. First thoughts on the subject of elementary and secondary educational needs for the seventies are conditioned by visions of the changing tenor of society in the next decade and what educational needs might be appropriate to such a society. One quickly comes to the realization, however, that we also have an overly sufficient set of unmet needs late in 1969 which so far give every indication of persistence throughout the next 10 years.

Unquestionably, most American educators will cite finance as the Number 1 concern. Perhaps the Baltimore City Board President, Mr. Francis Murnaghan, brings this problem into focus best by citing the average cost of education in our good private schools, and the cost of educating a child in our various Armed Forces Dependent Schools, and the difference between those figures and the sums being spent to educate public school children today.[1] It should be amply evident that the public educator is no more able to provide a quality education with less dollars than is his private or Armed Forces counterpart. The only alternative, a completely unacceptable premise, is that society is willing to provide lesser quality for the greater mass of public school children. The financial problem, then, involves first of all an acceptance of the importance of good education to this country, and, secondly, development of appropriate means of financing such an education. With respect to the latter, it is certain that dependence on local financing of education is outmoded and increasingly impracticable. Our cities are faced with decreasing tax bases against which to match increasing demands and associated costs. Recourse lies in a broad-based approach which will take advantage of the taxing structure available at the Federal level, and the allotment of common resources on the basis of relative need and ability to support programs in the various States and their school districts.

2. Future students of history may well study the various curricula, statements of philosophy, objectives, and goals available throughout the United States. If they compare these statements with actual programs and try to relate them to educational problems of the day, they will wonder why our practice deviated so far from our intentions. If the American public is to pay for truly high quality education, it will need much more clarity as to exactly what we intend to do, and how we intend to do it, as well as some performance data indicating that we can and do fulfill our intentions. While we are expected to deliver a product—presumably young people prepared to take advantage of further education and/or to effectively contribute their services to the American earning base and young people educated to understand and promote the American democratic ideal—more and more time has been devoted to pursuits in other directions.

There is a need for clear definition as to and agreement on our goals. If the above are worthwhile basic pursuits, we will also need an attitudinal environment more conducive to their satisfaction. The American public school, through its proximity and accessibility to society, naturally lends itself to many other uses. It has been the servant of our society when other institutions have failed, probably through their relative lack of amenability. Examples are found in pupil and staff integration, a myriad of health and welfare programs administered through the public school system, service as the principal remaining major forum for participatory democracy, as a testing vehicle for both centralization and decentralization of regulatory and governmental processes, and for many other major and minor societal services too numerous to mention here.

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[1] See Francis D. Murnaghan, Jr., "Federal Education Legislation Trends," a paper presented at the National School Boards Association Convention, April 13, 1969.

What many school administrators are saying in general was voiced long ago by the classroom teacher who began to find her time preempted with problems of milk money and stamp sale to the exclusion of her involvement in what she thought was her original purpose. It does seem clear that the pendulum is moving back to basic premises but there will be a need for acceptance of the role of the school, clearly defined, before we can insist as we should that the public system account effectively for its activities.

3. We know much more in 1969 than we even begin to practice. It is to be hoped that the next decade will see widespread application of general instructional techniques demonstratively effective, yet not utilized. Perhaps the best known of these approaches involves the use of television and other audiovisual devices. We have a whole nation being educated daily, unfortunately not always positively, through the public media. There are still public schools who have not scratched the surface in terms of using these devices on a regular basis. Effective films and tapes remain largely in a supportive role to lecture presentations, although it is amply evident that the major part of instruction might well be based on their use. Our armed forces, both in technical education and in such fields as foreign language teaching, have long ago learned the value of these devices, yet they have not yet spread as they must to our public school classrooms.

4. Probably the major preclusion to adoption of different techniques lies in the unfamiliarity of our generation with the use of more modern approaches. We were taught with a lecture method, sometimes augmented with laboratory and demonstration approaches. Our colleges still teach our teachers this way, even as they teach *about* the very implements we wish a new group of teachers to utilize! Still, one can scarcely place the blame on higher education alone, even if it has been amply demonstrated that we tend to teach the way we were taught. The practical training grounds for future teachers are the public schools and our young people gain their classroom internship experiences in situations which really have not changed much in the lifetime of most of us. So our methodologies perpetuate themselves and there will be a need for the American public to foresake these naturally assumed notions as to what constitutes good teaching, as well as for educators to attempt new approaches realistically rather than theoretically.

In the latter part of the 1960's we have begun to move toward better utilization of our total human capital. Education will need to continue in these directions through the increased use of persons trained as technicians, as teacher assistants, as teacher aides, and in many associated pursuits where they have already proven to be effective. Such a direction has also allowed an involvement of the community to be served with the actual process and thereby has provided advantages to the economy, as well as to better understanding of procedures and problems.

Associated with these directions will be a need for different approaches on the part of professional associations and unions. There is a natural tendency on the part of all of us to protect our particular status quo. This leads to a tendency to refute the advantages of implication of the "noncertificated" person on a personal threat rather than rational ground. Another major need will be for these associations to recognize further the necessity for performance to justify continued economic progress in the profession. It is not too far fetched to envision that the demand for teacher contracts at specific sums will soon meet with a demand for specific accomplishment and even include the abolition of tenure rights, as we presently know them.

5. We need to accelerate the acceptance of maximum utility in design and use of school plants. Happily, we seem to have learned much from commerce and industry in terms of developing and constructing schools which fit the needs of education in an economical fashion. The direction should continue away from the ornate and wasteful and concentrate on satisfying basic needs. There is a clear trend away from heavy building in a city, including a full auditorium and all of the appurtenances one might expect if the building were to serve all the functions required in an isolated community. Styles are more simple. Prefabricated techniques are being more widely utilized.

We should come to the realization that such buildings can be attractive, that they need not necessarily be identical, and that assembly line techniques do not indicate poor quality. Computer and systems techniques will improve our planning processes; they give us the opportunity to look at the large picture each time we undertake a specific project.

Associated with construction of buildings will need to be an acceptance of the necessity for their full utilization. The 1970's should mark the end of the American period of nine-month school building utilization. Although we know that the original seasonal problems of a rural economy no longer generally dictate our school calendar, we have continued to feel that the vacation habits of Americans will not allow acceptance of schools which operate on a 12-month basis. For one thing, we cannot afford the luxury any longer. Gains in instructional time involve gains in scarce financial resources as well as in educational opportunities for those needing acceleration or remediation. Rotation of attendance patterns for different children in different attendance time blocks, as well as development of 12-month programs, should become the mode during the 1970's.

Perhaps the notion that any type of intimate or indirect community control, whether in a large community or small community, means automatic quality education needs to be effectively dispelled during the next 10 years, preferably as soon as possible. The United States offers ample evidence of the success of various organizational patterns within which good education occurs. It is relatively easy to point out small and large systems in which the educational product is excellent or abysmally poor, however administered or governed. The major misunderstanding associated with the present trend toward decentralization is the implication that the product itself guarantees better quality. Nothing is further from the truth. While the interest of citizens in good education is an irrefutable positive factor in assuring good education, there is no guarantee that simply establishing smaller educational governments will better take advantage of this principle. Each such project needs careful study; it is unlikely that any general formula will suffice in different cities and in many cases a trend toward centralization may be preferable to the direction contemplated.

6. A New Yorker is more easily convinced of the values associated with a general measure of educational progress. One brought up under a State examination system, with all of its allegedly negatives, is also more likely to appreciate the positive attributes. Briefly put, a teacher who is given clear direction as to the aims of education in her classroom is not upset when a measure of the accomplishment of its aims is applied, so long as the factors affecting the accomplishment of its aims with a particular group of children are also taken into account. The earlier part of this brief statement indicated a necessity for a clear delineation of our educational directions. If the American public is to engage in the massive support effort we think we need, it will also demand that we develop techniques of informing them as to our efficiency and quality of accomplishment.

7. It has become increasingly apparent that our drive to emphasize the necessity for more education has been effective. All sorts of media have been used to emphasize, for example, the lifetime earnings expectancy of college graduates as compared with those of high school, elementary, and nonelementary educated persons. Inadvertently, this approach has resulted in negativism toward and rejection of technical and skilled occupation training. We have a real need to inform and convince young people and our citizens in general of the many fine opportunities and the associated good earnings and advancement possibilities inherent in occupational pursuits other than those available through collegiate preparation.

Concurrent with this is the necessity of changing our thrust in occupational education. It is obvious that a large city cannot hope that one or two vocational schools can meet the needs of young people in these directions and an almost complete reorientation is in order. Fortunately, some good evidence as to better approaches is available.

One suggestion is that the public schools focus on pre-vocational or pre-occupational education, giving students the general basic approaches on which commerce, business, and industry may establish the final occupaional education appropriate to their particular pursuit. To do this, we will need to enlist the cooperation of business and industry in having them agree to accept students in their eleventh and twelfth grades as wage earning trainees. The students will then have the advantage of earning while learning; the employer will gain the advantage of employees adequately trained to his particular needs.

Such a reorientation will require acceptance of the fact that in many cases the nonprofessional foremen or department heads can be expected to do a better job of education in a realistic setting than we can hope to accomplish in a more sterile school environment. Such an orientation will also enable us to take advantage of the rapidly changing plant resources which we cannot begin to afford in a nonproduct oriented educational setting.

Finally, it should be obvious that our young people, especially those coming from the most impoverished circumstances, will profit from an experience which allows them self-sufficiency while learning. The approach will require some rather drastic reassessment of the financing of vocational education. Employers will need at least partial reimbursement for the costs associated with using their personnel and plants in this fashion. Part of the student stipend may require support from Federal or other governmental level sources.

If society is to take full advantage of this new direction, we in public education must expect to conduct the formalized (English, social studies, etc.) portions of public education in the plants of commerce and industry. In short, it is wiser to move the educational establishment to the public and student rather than require the thousands of students to travel between school and the most natural occupational training site. The implications for such use of other community resources such as libraries, museums, and recreational centers to accomplish similar objectives are apparent.

ELEMENTARY AND SECONDARY EDUCATION NEEDS FOR THE SEVENTIES*

Mortimer Smith, Executive Director, Council for Basic Education, Washington, D.C.

Living as we do in a time of violence and of extreme views about many social arrangements, it is not surprising that one popular solution to the educational problems of the seventies is to scrap schools as we know them. The educational revolutionaries insist the school has failed because of flaws in its fundamental structure and because of the human flaws of those in charge. These revolutionaries would convince us of the total evil of tests and grading, subject matter, standards, the sequential curriculum, regular school hours, and middle-class teachers who refuse to believe that the child's notion of relevance is the first principle of sound education. In view of the fact that they write the best-sellers, have an increasing influence on both academic and education faculties, and that many of them manage to get ample foundation backing, I am not at all sure that these revolutionaries can be dismissed as romantic, unlikely to have any practical effect on schools in the future. In any case, I think their presence on the scene ought to be considered in any discussion of the educational needs of the seventies. Those of us who have some ideas for renovating the educational structure ought at least be aware that the wrecking crew is poised and eager for action.

Having gotten this reminder, or warning, out of the way, let me, as one who wants to reform rather than abolish the schools, address myself to the subject raised by the General Subcommittee on Education—the needs of elementary and secondary education in the seventies. Starting from the basic assumption that the primary function of schools is the development of basic skills and the training of minds, here are some of the things for which I think there will be an imperative need in the decade ahead: 1. Improved reading instruction. 2. Better teacher training. 3. Clearer and better measures of educational achievement. 4. More critical evaluation, in practice, of innovations. 5. Higher aspirations for children of the ghetto.

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*In writing this Article I have drawn freely on an article of mine which appeared in the March 1969 *CBE Bulletin*.

Reading, of course, is the essential first skill and the child who has an inadequate grasp of it is doomed to academic failure all along the line. It is hardy necessary to point to the shortcomings of many of our schools in teaching this skill; indeed, published (and unpublished) test scores show failure that amounts to a scandal. In his now famous speech in September 1969 to the National Association of State Boards of Education, Commissioner James E. Allen, Jr. described the current situation in reading instruction as "inexcusible" and "intolerable" and called for a "nationwide attack" on reading failure. Unfortunately (in my opinion), he pulled the punch of an admirable discussion of the reading problem by saying that we must be concerned with the *goal* of better reading and not "become bogged down in debate over *methods* of the teaching of reading." Method seems to me to be the crux of the matter, for the conditions Dr. Allen so graphically described in his speech have come about in large part because of faulty methods. If his crusade is to make any headway, it is eventually going to have to face the fact that some methods of teaching reading are more effective than others. (It is interesting to note that until recently the Office of Education has, in effect, endorsed the conventional look-say method. But more of that later.) A superintendent of schools said recently, rather plaintively: "We have increased three-fold our remedial staff of reading specialists, speech therapists, and psychologists. Our reading scores continue to go down. Why?" One could only point out, within the bounds of politeness, that there might be some relation between zero results and the fact that there was no basic change in method. Tripling your staff without questioning your methods is a poor road to reform.

This brings us to the look-say versus phonics debate of which many schoolmen—including, I gather, Dr. Allen—profess to be tired. I suggest they try to overcome their weariness, for I am convinced that in a proper resolution of this issue lies the answer to improved reading. In recent years several phonics-based methods have come into successful use and are now being used by perhaps 15 percent of American school children. Enough comparative studies of the old and new methods have been made to indicate the overwhelming superiority of the reading programs with a phonics, or code emphasis, base. The reform of reading instruction is a slow process, but one indication that it is coming is that many leading publishers are now moving away from the old methods. A wholly admirable goal for the seventies would be a substantial increase in the use of the newer methods in classrooms across the country.

In the second area where reform is most needed, teacher education, there has been some progress in recent years. There have been some changes in certification practices and some honest attempts to make a broad liberal education the basis of the teacher's preparation. Some of the changes have certainly been superficial, like changing the name of Bear Hollow State Teachers College to Bear Hollow State University. The complaint made a few years ago by Conant and Koerner that teacher education is a monopoly of the educationists is still valid. They, rather than the academicians, remain in charge. The mechanisms available to them—their schools and departments of education, their national educational and accrediting associations, and for the most part their certification requirements—still flourish and still dominate the field. We must be grateful for the undoubted advances that have been made. But until the old establishment is willing to make some fundamental changes, we will continue to feed into the schools each year a crop of undereducated teachers.

A third area where reform is needed is in measuring achievement. There is an amazing lack of overall information about what students learn. The paucity of information has its roots in the reluctance of educators to release data about achievement to the public and their morbid fear of comparison, that is, of measuring one school system against another. A layman who is interested in knowing how State or Town A's schools compare with State or Town B's must for the most part go by hunch and impression. The picture is not all dark, however. California and New York now have uniform programs of state-wide achievement testing at the elementary level, and some of the results have become available to the public. During 1969 the first phase of a national assessment program got under way. The Committee on Assessing the Progress of Education (CAPE) is collecting, by random sampling, information about educational attainments, abilities, and skills of students aged 9, 13, and 17. The results will not enable one to make judgments about particular school districts but will give some national picture of educational attainment. Such an assessment is long overdue. Perhaps it will prepare the way for evaluation procedures that will improve our ability to judge the competency of individual schools and school systems.

I come now to the need for better and more critical evaluation of various educational innovations in practice. Since Sputnik, American public education has turned to experimentation and has shown willingness, at least in some directions, to abandon old methods for new ones that seem to hold more promise. The discovery method, foreign language laboratories, individually-prescribed instruction, nongraded schools, the new math and the new English, programmed instruction, and team teaching are some of the innovations that have found favor with schoolmen. In some circles there has been a tendency to accept these innovations as necessities or as infallible devices; and there has also been a tendency to rely on them rather than on better teaching to improve the overall educational program. Along with an admirable willingness to try new things, school people have sometimes seemed to think that all change is good or of equal value. Some of the innovations mentioned above have undoubtedly been worthwhile, but I submit that most of them have not been subjected to rigorous critical evaluation. As the pressures increase for school men to "innovate," there is a pressing need for critical studies to determine the value of the great number of innovations already in operation.

The final reform of which I would speak has to do with ghetto education. One of the most urgent tasks of public education at the moment—in view of the consequences of failure, one is tempted to say the most urgent task—is to improve the quality of education in big-city schools. This involves a change of attitude on the part of many adults and the adopting of higher aspirations for children of the ghetto. Many educators and teachers have developed a sort of determinism about ghetto education, although the rationale may not always be the same. This determinism may be based on differing notions of the nature of the slum child, especially the Negro slum child. Some teachers, including many Negro teachers, believe he is an undisciplined savage, too dumb to learn. Others are inclined to rhapsodize about his naturalness and spontaneity and to point out that such an unspoiled child of nature may suffer a trauma by having middle class education or mores imposed on him. (It is teachers of this sort who are apt to tell us that we must not corrupt slum dialects by insisting on standard English.)

Those holding these opposing views of the nature of the slum child seem, however, to agree on one thing: millions of American young people in our cities are innately "different," nonverbal and nonbookish children who will find irrelevant the kind of preparation in reading and writing that has always been one of the main tasks of the schools. Educators and teachers may be divided over the question of whether the slum child is imp of Satan or child of God, but many of them are united in thinking he is uneducable.

Effective ghetto education is further hamstrung by the sociological view that the schools cannot do much for the child until the community and the home change. If you accept the conclusion of the well-known Coleman report that "schools bring little influence to bear on a child's achievement that is independent of his background and general social context," then it is futile to spend much time trying to improve the school's instructional program. You might better be employed in changing the child's home and social environment, or at least in trying to make the school a branch of the welfare department. Ironically, many slum parents realize better than do their children's mentors the importance of learning the basic skills. In my judgment the most important of the reforms outlined in this article is the upgrading of ghetto education. A first step toward that reform would be the assumption on the part of all those working in ghetto schools that the children in their charge are capable of learning.

Unlike the revolutionaries, I do not believe that there is anything fundamentally awry with the structure and organization of American schools. Very often there is a great deal wrong with their aims and programs. I believe the schools are salvageable, and have named some of the reforms which, if effectively carried out during the seventies, can turn poor or mediocre schools into good schools.

To sum up, I suggest that during the coming decade we need to improve reading; upgrade teacher education; provide clear measures of educational achievement; engage in critical evaluation of current innovations, and others as they arise; and above all, change ghetto schools from ineffective custodial institutions into effective learning institutions. There is no miracle pill for the 1970's that will make the schools what they ought to be. Only such a program of reform, calling for dedication, hard work, and cooperative effort, will do the job.

The General Subcommittee on Education, in asking the contributors to this volume to discuss the requirements of American education in the seventies, also requested their opinions as to what the Federal government should be doing to implement these needs. My answer may not be very helpful, but it will reflect my own philosophical biases about the Federal role in education. While I think that many Federal programs of recent years have been useful, and while I recognize that the national government will of necessity play an increasingly large role in the future in financing education, I do not consider Federal aid an unmixed blessing. The distributors of Federal funds for education, being human, have views of their own which, because of their position, can become quasi-official views, with unfortunate results.

Let me give, briefly, three examples of what I mean. Under the National Defense Education Act the laboratory method of teaching foreign languages became in effect an official method because the money went only to those willing to install the laboratories. Now studies are beginning to show that the audio-lingual method, based on the laboratories which Federal aid underwrote, is no more efficient, and often less efficient, than more traditional methods of teaching foreign languages. For example Number Two, consider what, until recently, has been the role of the Office of Education in disseminating information about reading instruction. The publications of the Office having to do with this subject, and especially its booklet called *How Children Learn To Read*, endorse as the valid and official method of instruction the old whole-word, look-say method, with nary a suggestion that there might be better alternative methods. As a third and final example, the Office of Education, by its current support of family life and sex education "as an integral part of the curriculum for pre-school to college and adult level," tends, it seems to me, to put the weight of Federal sanction behind programs that should be left to the discretion of parents and local school boards.

I think the Federal government has a role to play in achieving the reforms for the seventies which I have outlined. Speaking for myself and not for the Council for Basic Education, I think it should provide statistical services; serve as a clearinghouse for educational information and for the results of research; provide a forum for all points of view; and provide financial aid where essential. (I would want to draw up some fairly precise guidelines to define "essential.") Obviously, I see the Federal role as a limited, not a dominant one. The increase of Federal influence on education at all levels during the past ten years would suggest that my view is hardly a universal one.

EDUCATION AND GOVERNMENT LOOK TO THE SEVENTIES

Robert J. Stalcup, Director, Mid-continent Regional Educational Laboratory, Kansas City, Mo.

INTRODUCTION

Even the most casual and insulated observer of the current social scene must be impressed by the dynamic nature of contemporary American society. The crucial problems spawned by a changing and restless society have become the subject of much of the dialogue currently being carried on between and among the governmental, educational, and industrial communities. It is not the purpose of this paper to provide either a lengthy treatise on the genesis of such change or greatly detailed descriptions of the changes, themselves. To do so would be to belabor the obvious and to detract from the major intent of this effort—to focus on the implications of such changes for American education and to suggest Federal policies and actions which are essential if American education is to meet successfully the demands being made upon it.

Not all of the suggestions and considerations mentioned in this brief paper are original with me. It is difficult, however, to point out specifically individuals and sources which are responsible for first identifying the kinds of information which make up this report. Therefore, I am including a very brief bibliography of what I consider to be some of the more relevant, current publications—a synthesis of which provided the basis for the majority of the thinking within this paper. Particular appreciation should be extended to Dr. Robert S. Gilchrist, former Director of the Mid-continent Regional Educational Laboratory, and now Professor of Education at United States International University, Elliott Campus, San Diego, California, for that section of this document which deals specifically with implications for education.

The Changing Scene

An analysis of available written material suggests that some of the crucial issues facing American society at this time can be listed under at least these categories:

1. Science and technology
2. Economics and services
3. Changes in the social structure
4. Changes in the American ethic.

Neither the listing of issues nor the categories are intended to be definitive; rather, they are representative of major areas of concern. It is our conviction that the resolution of these issues will require concentrated, cooperative efforts on the part of education and government.

Science and Technology

Scientific and technological advances will begin to make themselves felt more and more during the decade of the 1970's.

Peaceful, commercial use of nuclear power will be greatly expanded, as will automated information storage and retrieval, computer technology, and improved weather forecasting moving eventually toward limited weather control. In addition, the food population problem will become increasingly acute, requiring a cooperative worldwide effort for its solution. Medical advances in disease eradication, chemical methods for improving memory and learning, instant communication—both audio and visual—through new uses of the laser and enormous advances in the biological sciences will provide scientific and technological changes to which education and government must respond.

Economics and Services

In the field of economics and services the 1970's will find family expenditures greatly increasing from their current levels. This will be coupled with the demand for social services, both of a higher order and broader scope than is currently the case. Disorder, riots, and demonstrations will continue to provide traumatic evidence of unmet social needs. The inability of Local and State government to deal effectively with problems of increasing scope and complexity will result in a further shifting of responsibility to the Federal level. Demands for more relevant, accessible, and low-cost educational opportunity will increase from all segments of the society.

Changes in the Social Structure

Accompanying the changes indicated above will be concomitant changes in the social structure of America. This will take the form of changes in the size and distribution of population resulting in increasingly critical problems concerning adequate food supply, urban blight, pollution of air and water, disposal of refuse and problems occasioned by the dramatic need for new and better systems of mass transportation. America will move toward becoming a post-industrial society requiring conservation of natural resources for man's pleasure as well as necessities. Employment in agriculture will continue to decrease, the shortage of skilled technical manpower will continue unabated, career retraining will be essential, and intellectual development will assume new, high-level status and acceptance. The changing nature of social institutions will result in increasing invasions of privacy, a critical need for new patterns of relationships between and among government and other social institutions, and new systems of communication. Systems analysis and scientific methodology will be applied by government and others to problems of policy research, and serious questions will be raised about the efficacy of State government and State boundaries as we know them today.

Changes in the American Ethic

At least equal to any of the above in their effect on the American social scene will be the impact of changing concepts of freedom, liberty, personal dignity, and rights. Each of these will need redefinition and clarification. The ethical implications of new scientific knowledge must be more carefully considered. Orderly, organized, reevaluation of the law will be necessary, and the impact of technology will be given much more weight when viewing changing ethical standards.

The list could be a great deal longer and much more detail could be presented to support the prosections listed above; but the point is made that American education and all levels of government are operating in a cataclysmic social situation which requires cooperative, informed effort if the challenges are to be met. The briefest analysis of the kinds of trends which have been pointed out in the paragraphs above suggests that as a minimum there are these implications for education:

Implications for Education

1. The overarching goal for American education should be to develop self-directed learners who, because of their interests and resourcefulness and because of the efforts of the educational system, will have both the incentive and the tools which will permit them to continue learning throughout life.
2. Education in America, both public and private, should provide for leadership and coordination to insure that appropriate educational experiences are provided wherever they are most appropriate, and that both people and technology are utilized as resources at a maximum level. It should be obvious that large slices of the continuing educational effort will take place outside the traditional school buildings to which education is now largely confined.
3. Both skilled and professional workers will require reeducation at least every three years for significant periods of time.

4. Education for leisure must assume high importance, and it must deal with the areas of home living, the arts, humanities, athletics, travel, and civic activities on the local, national, and world levels.

5. Desire for health and longevity, as well as the knowledge necessary for their achievement, must become respected educational goals along with the ability to read. Educating the population to ways and means of dealing with psychological tensions and the maintenance of a necessary amount of individual privacy must be undertaken.

6. Serious attention must be given to increasing our knowledge about and evaluation of scientific discoveries concerning the use of chemical methods and drugs not only to alleviate handicaps but to increase learning and intelligence. In this regard, education must deal with such questions as whether or not mankind should consciously increase the percentage of individuals with high ability and whether the genetic-chemical nature of life should be purposely modified.

7. A national commitment toward early childhood and adult education must be made, and these two crucial phases of the education spectrum must be made integral parts of the nation's educational system.

8. The "near worship" of academic subject matter without concern for its contribution to values and knowledge related to living must be overcome. Curriculum priorities must be set on the basis of their contribution to the individual as he attempts to reach his potential as an active participant in coping with life's problems and in gaining satisfaction from contributing to the welfare of man.

9. The current stance among educators that the sciences are more important than the arts and the humanities must be changed. These disciplines should and must supplement and strengthen each other.

10. New breakthroughs must be made in teaching and learning. Students must become more active learners and participants in planning experiences for reaching goals and in evaluating their achievement. The education system must permit students to learn as independently of the teacher as maturity and resources will permit, and, we must learn to express our educational goals in behavioral language which will permit accurate evaluation.

11. Traditional organizational and administrative patterns will no longer suffice. New systems must be established which will facilitate new approaches, such as differentiated staff assignments, team teaching, modular scheduling, and more independent study. Schools should be open whenever their facilities and resources are needed by children and adults, even if this means summers, nights, and weekends. Management functions should be subordinated to educational leadership by those employed to administer the schools. American education must become future-oriented. The luxury of limping along in the past, or merely reacting to the present, can no longer be afforded.

12. The American educational system at all levels must become very much more research-oriented. The usual practice of "hit or miss" efforts to find solutions to pressing problems and the implementation of crash programs is highly unsatisfactory. They are expensive, time-consuming, and for the long pull simply do not justify the expenditure of resources which they require. Organized, systematic, carefully evaluated efforts at research and development utilizing the best we know of systems analysis, cost benefit, long-range planning and associated managerial functions are required.

NEEDED FEDERAL POLICIES AND ACTIONS

The kinds of changes which have been indicated in the paragraphs above and the attendant implications for education require massive effort by the Federal government to assist State and Local school systems.

Therefore, it would be my recommendation that the following areas of concern be given immediate and serious consideration by the members of the General Subcommittee on Education of the United States House of Representatives:

1. The Federal Congress should move immediately to provide the full authorized funding for existing legislation.
2. The Congress should provide for a combination of block grants and categorical aids to State and Local school districts.
3. The Federal Congress should provide for funding on a minimum two-year basis.
4. Action should be taken to consolidate related Federal legislation titles under a single authority and require similar action by State and Local agencies which are to receive funds from such titles.
5. The Federal government should provide incentives for State and Local educational agencies to work out cooperative arrangements with their counterparts in other States. Compacts of States, such as the Education Commission of the States and the Western Interstate Commission on Higher Education, should receive substantial block grant support from the Federal Government.
6. Vocational and technical education must be given a higher priority by the Congress when authorizations and appropriations are made. Additional support should be earmarked for those agencies and institutions which have or are planning programs which are of a comprehensive nature, are relevant to business, professional, and industrial demands, and which represent planned, coordinated efforts.
7. Federal programs supporting the humanities and social sciences at the elementary and secondary levels are critically needed.
8. Greatly increased support for innovative programs for the preparation of educational personnel is needed. Current funding levels for the Education Professions Development Act are not adequate to meet the need.
9. Federal policies toward educational research and development must become far more aggressive and supportive and should provide for special incentives to promote "action research."
10. Education for the disadvantaged—both rural and urban—must continue to be supported and at higher levels than ever before. Special incentives should be provided for those programs for the disadvantaged which are applicable to both rural and urban situations.
11. New programs of international education for elementary, secondary, and higher education should be given priority status.
12. Programs to encourage the further development of junior colleges should be initiated with particular attention given to the development of technical programs.

13. All the influence of the Federal government should be brought to bear on the outmoded and inadequate systems of taxation of Local, State, and Federal government. Tax reforms may well be the most pressing problem facing local and State government today.

14. Preschool and continuing education programs must be developed. Legislation to expand existing efforts and to initiate new ones should be enacted as soon as possible. Particular attention should be given to programs which make maximum use of existing community resources which can supplement the efforts of the public schools.

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ELEMENTARY AND SECONDARY EDUCATION NEEDS FOR THE SEVENTIES

Lindley J. Stiles, Professor of Education for Interdisciplinary Studies, Sociology and Political Science, Northwestern University, Evanston, Ill.*

The United States confronts the 1970's with a growing awareness that education is its most important—but grossly underdeveloped—national resource. What the nation is today, the progress it has made on various fronts, its high standards of living, are due more to the contributions and products of its schools than to anything else. Yet, despite the good job that schools have done and the dependence placed upon them, their relative influence today is declining. What was good enough for yesterday is inadequate today. Schools are being called upon to perform expanded educational services, with higher levels of quality, to meet new requirements for individual and national development. Their inability to respond effectively is a cause of national concern. Increasingly, social deficits, such as the failure of the poor and minority groups to achieve the full benefits of an affluent economy, are becoming apparent that are chargeable directly to the inability of schools to live up to public expectations. Schools face a broadened burden to develop to a maximum the human talents of the society. The challenge is to extend the benefits of high quality education to all—a national goal of long standing that no longer can be postponed or rationalized away.

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*With assistance from B. J. Chandler, Dean; James Neal, Assistant Dean; Douglas S. Ward, Professor of Education; and John Wick, Assistant Professor of Education, School of Education, Northwestern University.

The Elementary and Secondary Education Act, passed by the Congress in 1965, marked the first attempt by the Federal government to improve general programs of education. Because appropriations have been small compared to the job to be accomplished, its implementation to date has identified deficits more than provided corrections. Significant and lasting improvements in elementary and secondary education will require substantially greater amounts of financial support, better uses of funds available, and more extensive involvement of all kinds of people to plan and carry out educational programs.

. To strengthen education at all levels, the need is for more and better research—both basic and developmental—to discover better ways to educate as well as to develop and implement programs and resources which satisfy the different needs of different students and communities. Research decision-making needs to be more diffused to tap the talents of various kinds of specialists and leaders, at local and State as well as national levels. Minimum achievement standards need to be defined and implemented on a nation-wide basis to assure that no child fails to attain the level of educational development essential for successful work and living. New systems to measure student development by individual growth norms, rather than by comparison with national averages, need to be developed.

Pluralistic curricular orientations should be established and the new evidence of the impact of nutrition on early mental growth should become the basis for a new approach to preschool development of children. New sources of educational personnel in local communities need to be tapped. All require better and more practical preparation for their assignments. Maximum use of educational technology should be made. Large urban school systems need to be reorganized to bring policy decisions closer to people. School communities in cities should have the same control over their schools as do people who live in suburban school districts. Shared control and mutual respect must become realities among racial groups as well as integrated attendance. Finally, new plans and partnerships need to be developed to finance and manage the nation's system of education.

To make elementary and secondary schools serve all children and youth effectively, education must become the highest priority for the United States. Required will be the same kind of support and dedication that have made our space program so successful. The strategy must be that of persistent experimentation, continuous marshaling of resources, constant assessment of results, and the effective implementation of more effective methods. Benefits that will come from such efforts will be greater in terms of human betterment and national progress than anything else the nation might undertake. Furthermore, the results will be immediate; improvements in human resources bring quick and expanding returns on investments.

A RESEARCH COMPONENT FOR EDUCATION

A prior need of the 1970's, if schools are to be improved, is to establish a research component for education. A key reason why educational programs are obsolete and ineffective is the lack of research to keep them abreast of new knowledge. Most business and governmental leaders know that in this scientific and technological age research and progress are integrally related. They have observed than an enterprise that does not invest from 5 to 30 percent of its annual budget in research is doomed to failure. Yet, ironically, these same leaders continue as stockholders in the nation's largest public enterprise—education—that, as yet, has only a token research component. Until adequate research and development are provided, educational programs will continue to be from 30 to 50 years behind the times.

Efforts to develop a research component for education are of recent origin. They date from the passage of the Federal legislation for the Cooperative Research Program of the United States Office of Education, in 1954, and its funding with a half-million dollar appropriation in 1957. The budget for this pioneer program of research was increased slowly to the point that when it was incorporated with Title IV of the Elementary and Secondary Education Act, in 1965, the total annual allocation for research was at about the hundred million dollar a year level.

No substantial increases have been made in the appropriations over the past five years. This amount, plus the expenditures at State and local levels that the Federal program has stimulated and those that are made by the education industries, represents a total investment in research of only a fraction of 1 percent of the annual education operating budgets. The total, in terms of dollars, is less than the $300 million that one company, International Business Machines, annually devotes to its research. The amount has proven too small to provide sustained support for the basic research that is needed to build the stockpiles of new knowledge out of which solutions to education problems can be drawn. It falls far short of the kind of support required to mount developmental types of research that are necessary to change school systems.

With the backlog of unsolved educational problems, the United States needs to increase its investments in research in this field to a minimum of 5 percent of the annual expenditures for education. This should be a goal for the 1970's. At the Federal level, the proportion should be substantially greater, inasmuch as improvement and problem solving are key contributions that the national government can make to education. From 10 to 30 percent of all Federal appropriations for education should be earmarked to provide a research component. The proportion should be determined by the purpose of the appropriation. If it is aimed at improving the quality of educational services, the percentage allocated for research should be greater. State and local school districts, similarly, should allocate proportions of their budgets to research, with the State following the national pattern of providing a greater percentage of its appropriations for this purpose.

In 1969–70, the total expenditures for elementary and secondary education are about $40 billion. If the nation were investing 5 percent of this budget in research, approximately $2 billion would be available from local, State, and national sources to find ways to improve schools. Such an amount would compare favorably with ratios of expenditures for research in such fields as defense and space explorations. Increases in budgets for elementary and secondary schools are running about $2.5 billion a year. Should this pattern hold, by 1980 the annual expenditures for elementary and secondary education will approximate $65 billion. Five percent of that figure would be $3.25 billion, which is what the budget for research for elementary and secondary schools should be by that time.

Failure to make research investments at this level will contribute to continued loss of relative ineffectiveness of education which has been mounting over the last two or three decades. It has become clear that inadequate support for research is the chief cause of this decline. Under our system of local and State support for basic educational programs, research must be funded primarily by the Federal government. Failure to enable State and local governments to strengthen schools by essential research may result in the eventual breakdown of the present system of local control of education. If this catastrophe should occur, Federal control and operation of the people's schools is almost certain to result.

Of the total amounts budgeted for research, at least 20 percent should be allocated throughout the next decade to basic research that aims to increase the stockpile of knowledge about education and its processes. This proportion is higher than business and industry allocate to basic research—between 4 and 5 percent. The reason is that so little basic research has been done in the field of education. A backlog of knowledge needs to be developed. The remaining 80 percent of the research budget should go to applied and developmental-type research that aims to translate knowledge into improvements in school programs.

The development of policy decisions for educational research continues to be a problem. The tendency is for such decision-making to be too centralized and too much the prerogative of a few specialists in research who cannot represent all the resources that should be drawn upon. The need is to tap the talents of all kinds of specialists—in the academic fields as well as the various branches of education, leaders in schools at Local and State levels, and experts from the education industries. Above all, research on educational problems should shun monolithic approaches.

Experience demonstrates that local and State commitments to research follow the national leadership. If a research component for education is to be established, the Federal government will have to lead the way. It should do so by building into every Federal expenditure for education an appropriate research and development operation to make certain that programs accomplish the objectives that cause their creation.

MINIMUM ACHIEVEMENT STANDARDS

A priority target of educational research should be the establishment of new kinds of minimum achievement standards that mark the intellectual skills and knowledges required for successful living and employment as well as academic progress. Standards now in use are based entirely upon norms of attainments—the level achieved by half of the students of a given age—rather than on the minimum that is necessary. It is customary, for example, to judge a child's progress in school by how his achievement ranks in comparison to the general norm. If he shows development that equals or exceeds the norm, it is assumed that he is learning satisfactorily. If he ranks below the norm, however, as half of all students do, concern is expressed. To say that half of the students fall below their grade level in reading is merely to state a statistical constant. Because the grade level in reality is nothing but the norm for all students of an age who have been tested, it is inevitable that half will rank below and half above. To get all "above the norm," as teachers are sometimes urged to do is an impossibility; as learning increases, the norms are raised.

What norm scores do not tell us is the minimum amount that a student needs to know in order to be able to function satisfactorily in life—to hold a job, to advance in a field, to maintain a family, or to perform as a citizen. Nor do they tell us the minimum educational development necessary for advanced study in a field. Another deficiency in norm scores is that they are based on measurements that are culturally biased in favor of white, middle- and upper-class students who compose the majority of the school population. Such tests do not offer a fair and accurate measurement of children and youth of minority groups whose cultural backgrounds differ.

Minimum achievement standards need to be developed that are adapted to cultural orientations of different kinds of pupils and related to the various goals that students are expected to achieve. They should provide the nation with a new definition of literacy—including scientific literacy—that will show when a student knows enough to function in life, instead of how many years of schooling have been completed, as is the present practice. They should make possible the judgment of achievement in various subjects, at given stages of development, in terms of minimum skills and knowledges required for subsequent educational progress.

Once minimum achievement standards have been established in the various skills and subject fields, educational efforts should be concentrated on helping every child and youth to achieve no less than the required standard. Beyond this point of development, the goal should be to provide each with the maximum amount of learning that interests and abilities permit. Such goals should become realities by 1980.

Another aspect of the measurement of student achievement relates to the standards employed to assess how much individual students learn. Present practice compares a student's scores on standardized tests with national averages. That such standards are culturally biased is well known. Not so well recognized is the damage done to some students by unfair comparisons with levels of achievement of other students. What is needed is a system of judging achievement in terms of individual norms to assure that educational growth appropriate to a student's developmental pattern is properly recognized and rewarded.

PLURALISTIC CURRICULAR ORIENTATIONS

Elementary and secondary school curricula, traditionally, have tended to be monolithic in orientation. They have focused almost exclusively on the history and development of the white man and his culture. Courses in art, music, history, geography, language, literature, social studies, science, and mathematics—all are oriented to the white man's thinking and experiences. Almost no attention has been paid to the cultures of other races and ethnic groups, other countries or regions of the world. As a consequence, students tend to grow up ignorant of the pluralistic values and cultures that compose the world or even of those that are represented in the United States. For white children such restricted curricular emphasis tends to produce lack of understanding and negative attitudes toward other cultures; for others, the black, brown, yellow, red, mixed and in-between, such cultural favoritism generates feelings of rejection and antagonism.

The current crusade for "Black Studies" in colleges and high schools stems from the omission of such content in school curricula. Representatives of other racial and ethnic groups have similar grounds to request special curricular emphases. Such demands can be expected to continue and intensify until the curricula of schools are revised to give fair treatment to the historical and cultural developments of various racial and ethnic groups that compose our nation. This type of curricula reform must take place immediately if intergroup tensions are to be counteracted.

The curricula of elementary and secondary schools should be oriented to all nations and sections of the world, not just to parts of Western Europe as has been the tradition in the United States. The Soviet Union, China, Japan, Indonesia, the Middle East, Africa, India, Eastern Europe, the Scandanavian countries, South America, Spain, Australia, and even Canada are examples of important nations and regions of the world that have been slighted in school curricula in the United States. Students of today need a broad understanding of all parts of the world. They need to know what other people are like, the kinds of cultures and political systems that have developed. Most of all, they need to perceive the relationships that prevail among people of various cultures. Such orientation to the world is essential as a part of a complete education for elementary and secondary school students. It is required to prepare our students for citizenship in a world where international relations are so influential on national policies. Modern communications media, world trade, travel, and political interactions have made better understanding of the world prerequisite to the decision-making to which all citizens must contribute in a free society.

Another curricular need is to give courses in the humanities and social studies, and to some extent in the sciences, a "people-focus." If children and youth are to develop the kinds of human understandings and relationships that are needed for life in a pluralistic society, they need to come to appreciate the qualities and characteristics of people that make harmonious human relations possible. Traditionally, school courses have tended to glorify conflict and confrontations between people—war, political conflict, and social tensions. Events and discoveries tend to be evaluated in terms of their contribution to conflict. Explosives, airplanes, atomic fission, and even space exploration are given military missions, to illustrate. Political policy-making is seen as a war game played against an enemy. Domestic programs even have their villains and conflict focuses. The need is to educate for harmonious human relationships, for positive social processes, rather than for conflict and confrontation.

NUTRITION AND EARLY MENTAL DEVELOPMENT

Research has documented the fact that nutritional deficits during early childhood reduce mental development. Ninety percent of brain growth occurs before the age of six. With malnourished children, studies have shown, the brain does not develop during preschool years as does the rest of the body. The retarded brain growth usually starts when the child quits nursing the mother. By the time the child has reached school age, irreparable brain damage has been done. Restoration of brain growth can be achieved by good nutrition but it must be done early—between the ages of two to six. Thus, nutritional deficits must be corrected *before* present school programs begin, rather than after as is the current practice.

A sizable percentage of ghetto children in the United States are malnourished. In Chicago, for example, it is estimated that 40 percent of such children are not getting the proper nutrition. For these children, mental capacities will become limited and no matter how much is spent on elementary and secondary education, such deficits must be corrected. If schools are to help such children, they need to join with public health agencies to provide the needed nutrition and training in health habits during preschool years.

It is vital that schools become involved in programs of nutrition for preschool children. Research has demonstrated that nutritional deficits cannot be corrected without educational support to train mothers and families. It is of little help to provide funds for food unless parents are taught the effect of poor nutrition on their children and how to provide healthy diets. To achieve this kind of parent education, programs of nutritional development should be linked with elementary schools. Each school should establish a program of nutritional service and parent education that will reach every child continuously during the six years prior to school entry and continuing throughout school years. Help from health and government agencies should be linked to such programs.

TRAINING EDUCATIONAL PERSONNEL

The Education Professions Development Act, passed by the United States Congress in 1967, aims to improve and broaden the kinds of personnel needed to operate schools. It provides for the assessment of national needs and the determination of the Federal role and strategies for meeting them. An assumption back of this legislation is that the improvement of educational personnel—broadly defined—is a key to reform in education. To improve educational personnel, new kinds of human resources need to be identified and recruited, new kinds of training programs need to be devised and researched. Access to training programs and careers in education must be equalized for potential educational professionals to the point that cultural and economic background do not function as selective factors. The Federal government is seen as a key agent of change since its appropriations can be discretionary in purpose.

With respect to elementary and secondary education, plans to implement the Education Professions Development Act aim to: 1) bring new kinds of people into schools, with special emphasis on the highly talented, especially among the poor and ethnic minorities; 2) demonstrate through training new approaches to developing, organizing, and utilizing personnel technology for more efficient and effective instruction in the schools; 3) provide training for people in fields where highest priority manpower needs have been identified; and 4) meet critical problems in the schools. Already programs are under way at fifty-seven centers that unite the resources of school systems and universities to achieve these objectives. The new kinds of personnel being recruited and the innovative programs that have been formulated give encouragement that the program will achieve its objectives.

Eight Illinois colleges and universities have already developed programs with support from the Education Professions Development Act. Included are the University of Chicago, the University of Illinois, Northwestern University, and a consortium of institutions in the Chicago area—Chicago State College, Concordia College, DePauw University, Loyola University, and Roosevelt University. Although each of these experimental programs has unique characteristics, the one developed by Northwestern University, in cooperation with the Chicago and Evanston, Illinois, Public Schools, illustrates the impact that the Education Professions Development Act is making. The objective is to prepare teachers and leaders to train teachers for urban schools. Minority group members are given priority. The program itself is built around firsthand experience in urban schools, communities, and agencies. Clinical experiences are supported by academic seminars that focus on conditions encountered by the participants and make use of problem-solving approaches. In addition to professional concerns the emphasis is on the politics and sociology of urban education. Approximately 60% of the student's university program is taken in cognate behavioral science courses that relate to urban and minority group problems. In addition, the resources of the University's Center for Urban Affairs are utilized in the planning and implementation of the program.

To date, the Education Task Force, chaired by Assistant Secretary/Commissioner James E. Allen, has worked with fifteen advisory subcommittees to chart the implementation of the Education Professions Development Act through 1975. A prior goal to which the United States Congress should address itself is the full funding of all aspects of the program as quickly as possible. Two hundred and thirty-two million dollars will be required immediately for 1970. The amount will increase to $330 million the following year. Subsequent advances in funding will be required to maintain the expansion and continuation of training programs. Plans should be made by the Congress to continue and expand this program throughout the 1970's, provided that it lives up to its promise during the first five years of operation.

USE OF EDUCATIONAL TECHNOLOGY

Improvements in elementary and secondary schools will require the maximum use of educational technology. The new communications media are already developed. Their effectiveness in promoting learning has been demonstrated. What remains to be done is to program such instrumentation to the instructional needs of different types of students and to teach teachers how to use the resources. The research needed will be more in the software of curriculum design and planning than in the hardware, although improvements will be required in the latter as instructional programs are formulated.

Using the new resources of educational technology requires a systems approach to instruction. Interdisciplinary teams of specialists are required to give the classroom teacher backup help to plan and test out programs of instruction. Advantages include a reduction of the routine chores that teachers have to perform. Teacher time is freed to make possible individual counseling and tutoring of students and inservice training for teachers. New types of deployment of professional talents are made possible with each teacher being scheduled to work at his highest level of professional efficiency. Paraprofessional personnel can be utilized to help with the less demanding tasks of instruction and the management of students.

In the use of educational technology, priority should be given to the development of programs that are suited to the various minority and ethnic groups. Heretofore, such resources as programmed learning, educational television, and computer assisted instruction, as with most textbooks, have been designed and used with the middle-class white student. Those who need assistance most, the culturally handicapped, have not had the advantage of help from the communications media. The fact is, however, the educational media can do more for the child with learning difficulties than for any other. Programmed lessons can provide systematic, sequential instruction that assures that each step in a learning process will be mastered before moving to the next. Sufficient drill to fix skills and content can be supplied. Assessment of progress can be constant. All that is required is for programs to be specifically designed for this type of student who, in fact, may be the numerical majority.

REORGANIZING SCHOOL SYSTEMS

With the urbanization of the United States, school systems have become too large, too centralized, too monolithic and too bureaucratic to meet the needs of the diverse kinds of students that must be served. With decision-making far removed from local schools and their clientele, a communications gap has developed that generates lack of confidence and resistance. The legal mandate for racial integration has produced further conflict which has been intensified by lack of community involvement in planning and implementation.

Large urban school systems need to find ways to decentralize. The objective of providing the best possible education *for all children* can be more vigorously pursued by bringing educational decision-making, as much as possible, to the local school and community level. At the same time, the advantages of a large system—such as purchasing power, diverse professional assignments for personnel, equalization of opportunities and long-range planning—should be maintained. How such reorganization should be done will have to be answered by research and experimentation. It is to be expected that initial efforts will meet with difficulties in many school systems. People have to learn

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how to help manage schools just as they have to learn other forms of democratic participation. Progress will be hastened, however, if the process of reorganization is systematically planned and researched as it progresses.

Research is needed, too, to achieve healthy racial integration. More must be done than merely scheduling students of different races to attend the same schools and classes. The need is to help children and parents to learn to respect each other, to work together in harmony, to share equally in the opportunities and benefits that education can provide, and to join together in the control of educational policies. The goal of "one nation" can be maintained only if all racial and ethnic groups are assimilated into the power structure of education. Schools should be reorganized to permit such involvement.

NEW PLANS AND PARTNERSHIPS FOR FINANCING EDUCATION

Elementary and secondary schools are bankrupt for adequate financing. They confront taxpayer revolts that defeat new bond issues and proposed increases in tax rates at a time when additional funds are desparately needed. This condition results from placing too much of the burden for financial support of schools on local real estate taxes and from the noninvolvement of people in critical decisions about schools. Inequities in rates and property evaluations, from community to community, intensify the resistance. Inequities exist, too, in teachers' salaries, buildings, instructional supplies, equipment, teacher-pupil ratios, and the appropriateness and quality of education that individual pupils receive. State and Federal appropriations do not equalize the cost or quality of education, nor do they make up the budgetary deficits that exist in most school systems.

The need is to design a new kind of plan for financing elementary and secondary education that brings local, State, and Federal resources into a workable and equitable partnership. One objective of such a plan should be to equalize the responsibility for the support of education on a nation-wide basis. Another goal should be to provide maximum and appropriate educational opportunities to children and youth, regardless of race, ethnic background, place of residence or economic status.

A parallel goal of a nation-wide plan to equalize cost and to maximize educational opportunity should be to establish accountability for educational services. The nation should be concerned and should know how well children and youth are learning in all sections of the country. Evidence that investments in education are producing anticipated educational results should be continuously collected and publicly disseminated. Where deficits are found, research should be instituted to discover and induce correctives. Resources should be marshaled until results are produced.

The partnerschip developed between local, State and Federal educational and governmental agencies should respect the historical roles of each. Particularly, is it important that the Federal government maintain its responsibility to protect the rights of minority groups, which are often ignored at local and State levels. Nor should State agencies be by-passed by the Federal Government to link itself directly with school systems. It is imperative, furthermore, that involvement of citizens at the local level be achieved to devise and carry out educational policies. Equalization of educational support and the provision of educational services appropriate to the needs of different kinds of students can be achieved within the structure of the decentralized system of education that exists in the United States. What are needed are clearer and more functional definitions of relationships, new sources of revenue to replace the local property tax, and new ways to make educational services available to students in the kinds and amounts required.

THE SCENE HAS CHANGED, AND THE TIME IS NOW

Donald R. Thomas, Professor of Education, Case Western Reserve University, Cleveland, Ohio

The poet T. S. Eliot remarked that "time present and time past are both perhaps present in time future." Therefore, to discuss the future of education in the seventies, we must highlight, at least briefly, if not telegraphically, some conditions of the past and some problems of the present.

In 1932, Professor George Counts posed the question: "Dare the schools build a new social order?" Today, that question might well be reversed: "Dare the social order build new schools?" There is little doubt that since 1932, the United States has built a new social order, for it has become largely urban, extremely mobile, and blessed (or cursed) with instant and total communications. Its economy and its culture are characterized by growing abundance and increasing diversity, a condition which calls to mind Addington's second law of thermodynamics, called "entropy," or the continuous diffusion of energy into ever increasing numbers of units. In brief, American culture is marked by overgrowths in stimulation and incredible variance in individual perceptions and commitments. So complex has it become that Mumford suggests that urban America is plagued with "negative symbiosis" or people living together in mutual conflict of interests which, if entropy holds, can only continue to escalate rather than diminish.

So this is the society into which we seek to induct our youth. It is a society fighting to hold its stability, yet in frenzied pursuit of Camelot. It is television, jets, computers, rock and roll, and explosive personal polarizations. It offers more to its youth of everything, both good and bad, pure or polluted, than any culture at any time in the world's history.

Now what of the schools in this new order? American education grew to maturity as the vision of the essentially small town-suburban, white middle classes. It has always been characterized as economical (if not frugal), static (a culture maintenance agent), and fashioned after the early efficiency models of agriculture and industry, meaning single product systems to produce a better ear of corn, a larger chicken, a better washing machine or a faster car.

The educational process therefore has been didactic, prescribed and engineered to *standardize the ideal.* Like industry, public education has evolved into larger and larger organizations and become less and less personal and pliable, no-nonsense factories of packaged knowledge, assembly plants for proper Americans.

Not too long ago, someone raised a question (perhaps it was in a child in school). He asked: "What has all this got to do with me and my world?" And all the educators looked up from their work benches and their assembly lines and noticed that the society had indeed changed. Now there were more discards than graduates in some schools, and even the ideal children, called Dick and Jane, had found, with McLuhan, that they had to "interrupt their education to go to school." The truth was out; the king was dead, irrelevant and outmoded, even counter-productive. And no amount of money, Federal, State, or local, could put Humpty Dumpty back together again *in the same old form*. It was time for redefinition, retooling and renewal in the light of the new realities. To do otherwise automatically raised the question: "Can the schools still compete in the field of education?"

Formal schooling involves the organization of three elements; people, ideas, and things. The *people* are the students and all the educational personnel, plus appropriate community contributors; the *ideas* are the curriculum, meaning the knowledges, skills, values, and attitudes the school proposes to transmit to or develop in children. *Things* would include buildings, furnishings, and equipment. Ideally, the organization of each of these elements as well as their interrelationships reflects Frank Lloyd Wright's admonition that "form should follow function." The remaining problem then is to define the function or functions, and then get about the business of organizing in terms of those definitions.

Most of the educational innovations advocated in the past few years have addressed themselves to only one of the three elements, the ideas. Most have *not* proposed any fundamental reorganization of the people or the things, choosing instead to employ the shopworn platitude of "working within the system," which freely translated has turned out to be *no change* in the organizations, but rather futile attempts to paste new ideas on old structures. It is difficult to teach about the Space Age in a blacksmith shop, or to compete with television with personnel certified in the balloon age. It is equally ludicrous to teach human relations in a segregated school.

The millions of dollars distributed by the Elementary and Secondary Education Act of 1965 have had relatively little impact precisely because those dollars were not used to produce structural changes in a system which could no longer produce improvement, regeneration, and redefinition because of its antiquated and inappropriate forms. To change those forms is as necessary as the extensive changes industry initiates regularly in order to remain vital and competitive. Such changes, when viewed by industry as a matter of survival, hold that nothing is sacred or indispensable, and decisions should be made devoid of sentimentality.

The challenge to public education in the 1970's is impressive. Margaret Mead has suggested that it means providing relevance in terms of problems not yet formulated. It means preparation for careers not yet devised, and it means dealing with diversity, the scope of which is not yet complete. But the basic elements of our response can be suggested. and some answers are already evident.

First, if public education is to survive as a legitimate social institution, it will need a massive infusion of funds. But the allocation and distribution of those funds cannot follow old channels, the forlorn dry riverbeds of the past. Such funds must be Federal and must be held to a strict accounting to see that they *produce* the needed changes. Federal funds, in short, must be accompanied by performance bonds, and must be incentives to change.

Second, public education must reorganize. Perhaps this means Metropolitan Education Authorities to insure efficiency, and the focusing of resources. Surely it means the discarding of present school district systems which stand as monuments to nineteenth century rural traditions. Perhaps it means a new compound, created from students, parents, professionals, and interested citizens, operating in parity,[1] without the restraints of an encrusted bureaucracy, pliable and in the continuous motions of adjustment. Merely reassigning personnel, renaming jobs, or retraining incumbents cannot substitute for total restructuring in which new roles are defined in terms of new functions.

A Metropolitan Educational Authority could be a Board of 12 to 15 people who employed their own professional research and evaluation staff. The territory governed by such a Board would then be divided into sub-areas, each with its own citizen advisory board and a chief administrator whose tenure would be subject to continued high performance ratings. Within the Authority, there would be specialty schools and activities which cut across sub-area jurisdictions. For example, abandoning obsolete vocational education traditions, one secondary school might be a technological school, training everything from machinists and electronic technicians to pre-engineers and computer programmers, and granting equal prestige to all.

Reorganization would obviously involve reappraisal of the entire certification process for educational personnel. There has been no fundamental change in the conceptual framework underlying certification in 50 years. Elementary teachers still are required to amass a series of credits in the vaguely defined liberal arts, plus a professional sequence, the validity of which has never been verified. For most teachers, this has led to certification and the assumption that they can teach everything from space science to adverbs to African history.

The single optimum model teacher, in the face of population diversity and the explosion of knowledge, makes no more sense than does the single model Dick and Jane curriculum. Research in organizational theory similarly condemns to history the notion that teaching is somehow prerequisite to administration, as administrator certification now requires.

Similarly, redefinition and reorganization would require remodeling of the evaluative criteria used to accredit schools. Extensive study needs to be initiated to develop appropriate evaluation guidelines for a modern, multicultural, multiracial, multistimulus education, not with the notion of reducing diversity but rather using that diversity as an organizing value. In short, accreditation must lead to multiple models of acceptable education, each with significant increments of prestige.

The reorganization of *things* implies the rapid elimination of the conventional school building with, as Richard Foster says, "its cages for all ages" arrangement. Here, indeed, should Wright's dictum be persuasive. Space, nay the entire physical environment, should facilitate rather than impede learning. And as learning tasks proliferate, so environment should accommodate rather than inhibit.

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[1] The parity concept, or course, assumes social equality. To embark upon any major reorganization of public education without the explicit understanding that racial integration is an absolute component would be both hypocritical and suicidal.

Reorganization, with a commitment to reality, should at last insist upon forms which readily accomplish the social ideals of integration and access to equal educational opportunity. And if this means subsidization of any segment of the population to insure their absolute right to full participation in the total school program, including extracurricular and co-curricular activity, then so be it. Substantial revenue needed for this purpose might well accrue from a systematic elimination of the duplicate service delivery systems now present in education and welfare activities, as well as the immediate institution of better equalization procedures to adjust income resources to demonstrated need.

Fundamentally, the *raison d'etre* of Federal aid to education should be incentive to change. General aid, without a required commitment to reorganization and improvement, is not only wasteful, but counterproductive. On the other hand, incentive aid, coupled with performance bonds, urges progress and invites responsibility. The assumption, of course, is that Federal participation in education is no longer a debatable issue; that education is as much an interstate problem as aviation, communications, or trade. For what happens to children in the South or East is very much the concern of the West or North, and vice versa.

Categorical incentive aid then becomes a strategy to promote reorganization. Some examples of how it might operate follow:

(1) *Structural Change.*—Federal aid will be granted to clusters of school districts who form Metro Educational Authorities. Such aid would be used to ease transition, and to give sufficient general outright assistance to the districts involved so that it would be imperative for them to grasp the opportunity.

(2) *District Organization.*—Federal aid would be granted to a school district which proposed, (and under performance bond, carried out) reorganization in *functional organizational* (rather than administrative) forms that enhance the new priorities of relevant education.

(3) *Architecture and Environment.*—Federal aid would go to school districts to develop new and renewed school facilities where form followed function. This might take the form of environmental design awards.

(4) *Certification.*—Federal aid would go to States to plan (and carry out) major adjustments in their certification procedures to produce functional licensure rather than bureaucratic ornamentation and legalism.

(5) *Accreditation.*—Federal aid would be granted to regional accrediting agencies systematically to revise and enforce evaluative criteria which would cultivate the new realities of social heterogeneity and intellectual diversity.

(6) *Integration.*—Federal aid would be granted to school districts which truly integrated (as opposed to merely desegregated). Such integration would necessarily involve not only people, but the entire intellectual and attitudinal climate and environment.

(7) *Deadwood.*—Federal funds would be granted school districts to buy off contracts or force the early retirement of personnel who are either unwilling to change or technically incapable in light of

the changes desired. This is a technique frequently employed in the sports industry and found to be practical and acceptable in terms of the high priority placed upon winning. Certainly, public education needs winners.

In addition, Federal aid must be allocated for larger blocks of time, say, three- to five-year sequences. Much educational innovation is undercut by the pressure to produce instant results. Time is needed to eliminate possible "halo" effects, for example. Time is needed to let an innovation take hold and have impact. Again, to paraphrase the poet Eliot: "Indeed there must be time, for a hundred visions and revisions, for decisions and revisions which a minute could reverse." Man did not achieve the moon on a one year Federal grant.

SUMMARY

Public education has become increasingly dysfunctional in terms of the realities of modern American culture. It is imperative that schools reorganize, not only their ideational structure, but their people and their environments. Education is a national necessity; therefore, the Federal government must intervene with massive support of change. Such support must be directional; therefore, categorical incentive aid with performance bonds should be the form of future aid. Targets for fundamental change should be inter-district organization, intra-district structures, the physical environment, certification, accreditation, and racial segregation. In addition, there must be aid in blocks of time which make innovation possible and of persuasive high quality.

Much of what has been suggested here will be considered too drastic, too disquieting by some, but then the abandoning of leeches as medical accomplices was considered radical in its time. The urgency and intensity of the needs should be sufficiently persuasive to muffle the voices of fear and ponderous conservatism. Change is, after all, inevitable; only its direction and speed can be questioned.

For the pragmatic American, who wants to be part of the solution rather than part of the problem, the challenge of these proposed fundamental changes must be answered, in the words of the United States Supreme Court, *at once.*

MAJOR PROBLEMS FACING PUBLIC SCHOOLS IN THE SEVENTIES[1]

Sidney G. Tickton, Executive Vice President; Ronald Gross, Vice President and Editor-in-Chief; and Paul Osterman, Program Associate, Academy for Educational Development, Inc., New York, N.Y.

INTRODUCTION

The purpose of this paper is to describe the major problems facing American public schools in the coming decade, and to indicate alternative approaches toward solving these problems.

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[1] This paper is developed out of materials prepared for a number of Academy seminars and symposia.

To hold a subject so wide in scope within reasonable limits, rigorous selection has been essential. Other observers might come up with a somewhat different set of problems, and, in some cases, different alternatives. Thus, for example, the church-state issue is not treated in this memorandum. However, most informed analysts of the school system would select the areas, which are taken up in the following pages, as presenting the most critical problems facing our schools today:

Goals: What Should the Schools Aim To Do?

Control: How Should Decisions About Education Be Made?

Financing: How Will the Needed Funds be Provided?

Curriculum: What Should Be Taught?

Teachers and Teaching: What Kinds of Teachers and Teaching Are Needed?

Facilities: What Kinds of Facilities Will Be Needed?

Equality: How Can The Schools Provide Genuine Equality of Opportunity?

Evaluation: How Can Quality Be Measured?

Innovation: How Can Change, Based on Research and Development, Be Encouraged?

GOALS—WHAT SHOULD THE SCHOOLS AIM TO DO?

The Problem

The question of the essential role of the schools—what they should do and should not do—is increasingly important to everybody concerned about education, but particularly to those responsible for policy. The policy makers today must be prepared, if necessary, to expand the role of the schools or be able to show why not.

Some people believe that systematic, organized learning, with the emphasis on the academic and intellectual, is the special function of the schools. However, others—harking back to an earlier generation—believe that schools should play a positive role in building a new and better social order.

To the extent that this enlarged view of the schools' responsibility prevails, the task of the schools (as applied to the conditions of contemporary urban life) is made obviously so much the more difficult. However, for the schools to try to divorce themselves completely from community problems including matters of social and economic justice could be an abrogation of essential community responsibility.

To raise such questions about the responsibilities of the public schools invites a debate on educational theory and philosophy. But as a practical matter, the schools have been increasingly extending their activities and scope. Even greater participation in community problems can be expected of the schools in the future.

Apparently, in fact, the prevailing belief that the schools' prime concern is "academic" has perforce made room for the recognition that schools *have* to offer programs in important areas—health, technology, citizenship, culture, recreation, and trade. This additional requirement is particularly acute where the home, the church, industry, and other institutions of society do not or cannot provide essential experience in these areas.

Related to this conflict is the question of the time-span of the school's program: should formal education begin very early in the child's life, prior to kindergarten or first grade, and should it continue, at public expense, beyond high school to embrace a year or two of junior college? The value of an earlier start is reinforced by recent findings in psychology, which indicate that early experiences condition a child's entire later development. Extension of schooling for an additional year or two grows out of the demands of an increasingly specialized labor market.

Today a good school system cannot ignore the influences—positive or negative—that home and community have on every child. It is bound to heed whether he comes to school well-fed or hungry; properly shod or barefooted; whether he walks to school or is bused; whether he comes from a cultivated household or a fatherless ghetto tenement.

In the big cities particularly, the aims of the public schools are woven into the aims and needs of the whole city.

Alternative Solutions

One approach to the problem of educational goals would be to maintain the traditional stress on academic and intellectual training, despite the momentous changes in social conditions nowadays. To do so, however, would necessarily ignore the individual needs of a large proportion of children for whom such goals, as commonly exemplified, have proven to be inadequate or inappropriate.

Going to the other extreme, the schools could try to spearhead the movement for overall social betterment—as vigorously advocated a generation ago by reformers like George Counts in his book, *Dare The Schools Create A New Social Order?* This approach would probably alienate most Americans, who seem to feel that, while the schools are necessarily concerned with the welfare of society as a whole and the child's development as a rounded human being, their role is *primarily* intellectual.

A middle position would be this: society's problems today are so critical that the schools must participate actively in the areas of greatest public need and, through such intervention, hasten redress of existing and potential inequities.

Those who support this middle position base their case not on theory but on sheer utility. The school is in a practical position to act where other institutions have failed or cannot act or don't exist. A good school *can* mitigate some of a child's family, social, or economic handicaps. Gifted school teachers and administrators can take the home and community into their confidence, establish a dialogue, even try to change what is baleful. For some children, in the worst circumstances, they can if they will act quite literally *in loco parentis*.

The compromise position outlined need not rule out a commitment to the *distinctively* intellectual function of formal education, and this could serve to restrain the overextension and fragmentation of the school program. Perhaps the most searching examination of the goals for the American public school system was provided in 1963 by the Project on Instruction of the National Education Association. This distinguished group (whose work formed the basis for the NEA's present Center for the Study of Instruction) consulted extensively with experts and leading citizens throughout the nation, and concluded that schools should focus on intellectual competence as the *distinctive* goal of formal education. It cited the definitive statement once made by the Educational Policies Commission:

> *The purpose which runs through and strengthens all other educational purposes—the common thread of education—is the development of the ability to think. This is the central purpose to which the school must be oriented if it is to accomplish either its traditional tasks or those newly accentuated by recent changes in the world. To say that it is central is not to say that it is the sole purpose or in all circumstances the most important purpose, but that it must be a pervasive concern in the work of the school.*
>
> *Many agencies contribute to achieving educational objectives, but this particular objective will not be generally attained unless the school focuses on it. In this context, therefore, the development of every student's rational powers must be recognized as centrally important.*[1]

The final report of this NEA group also recommended the development of specialized vocational competence as a primary goal of schooling. Finally, it stressed the responsibility of the school system in a democratic society for developing the potentiality of each child.

It is, perhaps, this stress on the importance of the *individual* that may best reconcile diverse views of education's goals. Concern for the individual embraces his intellectual development, his preparation for a chosen vocation or profession, the encouragement of his artistic sensitivities and creativity, the nurture of his spirit, will, and sense of purpose. But it is primarily through programs of organized systematic learning that the school can exercise this concern.

CONTROL: HOW SHOULD DECISIONS ABOUT EDUCATION BE MADE?

The Problem

Who runs the public schools? The superintendents? The principals? The boards of education? The teachers? The local governments? The mayors? Parents and students? Who? The answer in a word is: "Everyone." The school systems of the United States, it would seem, are everybody's business (and by that token sometimes, it appears, nobody's).

But however much citizens at large are, or could be, involved in the determination of educational policy, it is the professional educators who must tend to the day-to-day running of the schools. At this level of administrative control, the public schools throughout the country face a problem familiar to businessmen: How can a large, necessarily bureaucratic, and centralized organization preserve or encourage local initiative and creativity?

Decentralization of authority and responsibility are the order of the day in many corporations which want to offset the negative effects of bigness. But the present pattern of school organization in most big cities tends to a higher degree of centralization. As a result, many urban school principals and teachers feel insufficient freedom to plan programs for particular school populations. This rigidity is, viewed from one angle, the bad by-product of a good purpose: to further equality of opportunity among a city's schools through the maintenance of common standards for both programs and services. But well-intentioned as these procedures may be and as successful as they may have been in the past, they do not meet the pressing problems of the present and the future.

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[1] *Schools for the Sixties.* National Education Association (New York: McGraw-Hill, 1963), p. 111.

Obviously the centralization of certain functions—for example, long-range planning, purchasing, data processing, budgeting, building construction, and overall policy development—augments economy and efficiency. On the other hand, when decisions bearing directly upon programs of instruction in particular schools and upon the relationships among principals, teachers, students, and parents are masterminded from a remote central office, the school system takes on the character of a bureaucracy, and quality of performance and satisfaction—of students, teachers, principals, parents—is apt to be diminished.

Alternative Solutions

It is no longer possible to ignore the question of school control. In city after city, parents and others have made it clear that they can and will disrupt the educational process unless and until they are made to feel a part of it.

One approach is to involve directly in the affairs of the public schools citizens who are neither board members nor teachers nor necessarily parents. A new kind of partnership is in the making. As Francis Keppel has said: "Education is too important to be left only to the educators."

Harold Howe II, who preceded Mr. Allen as U.S. Commissioner of Education, has cited some of the major considerations in bringing about a stronger school-community partnership:

> At a time when innovations and increased specialization make education more complex, nothing is more important to its healthy growth than simple and direct communication from the professionals who lead it to the laymen who are responsible for it. . . .

Another approach would go beyond improved communication. Today educators, in many cases pressed by minority groups in the large cities, are taking a new look at the possibilities for decentralization. (At the same time, in rural areas, the consolidation of inefficiently small school systems continues.) Even the U.S. Office of Education itself is in the midst of a program of decentralization through building up the capabilities of regional offices; State departments of education are being bolstered in the same way.

Ex-Commissioner Howe suggested the lines along which even more progress might be made:

> I propose that we take a step toward broader local control of education by increasing the number of school boards in the densely populated urban areas. It seems to be absurd that our large cities, with hundreds of thousands of school children, should limit the advantage of stimulation from interested laymen on a school board to a single group of 10 to 15 members. How can a dozen school board members give any sense of representation and participation to the many neighborhoods of a city differing vastly from each other in their economic and social makeup? It is worth exploring the notion, as New York City has, that perhaps our largest cities should have as many as a dozen school boards, each running a cluster of elementary and secondary schools, and each with a majority representation of citizens who live in the neighborhood. Such a system would bring a much greater sense of direct participation in the formulation of school policy. It would give district superintendents

> a much greater chance to advocate promising new ideas in education, and it would generate a most productive variety of experimentation.
>
> We must welcome and encourage a responsible interest in the schools by laymen who hold no official position except that of citizen. I know that superintendents frequently resent school groups made up of local busybodies or the occasional self-appointed saviours of either the school curriculum or the local tax rate. But these abuses should not blind us to the growing movement of reasonable citizen interest in education. Worthy organizations at the local, state, and national level express this interest, and we all stand to gain by it when it is well planned and well led.[3]

Still another approach is the one which the United States Chamber of Commerce task force on economic growth and opportunity put forward in its report on education: competitive education. Under this arrangement the government would continue to finance the education of all children—but would offer, as an alternative to public education, financial support for private education up to the amount of the average expenditure per pupil in local public schools. The task force based this unusual suggestion on its conviction of the importance of sound education, coupled with a concern that the present institutional structure may not be the best or only way to achieve this end. The task force recognized that the suggestion raises constitutional questions, having to do with the participation of sectarian schools and with the use of the technique to permit racial discrimination.

FINANCING—HOW WILL THE NEEDED FUNDS BE PROVIDED?

The Problem

Spending money to get good schools is sound public policy: there is wide recognition of this fact. The reasoning can be entirely pragmatic. Research shows a high relationship between level of education achieved and personal income. Money spent on education is a good investment: it provides good rates of return to individuals, corporations, cities, States, and the nation as a whole. The economic progress of the nation, and the future of business and industry specifically, depends heavily on the provision of the best possible education for America's children.

Nonetheless, American public education now faces serious financial problems. The system needs large additional funds every year—as it will for a considerable number of years to come—in order to fulfill its essential functions. But restrictions on educational financing, particularly in the large cities, has meant that important school needs have been neglected.

Heavy reliance on local taxes, together with legal limitations placed by State legislatures on the amount of school taxes cities could levy, has severely constrained the financing of many urban school systems, and faced them with serious deficits for years to come.

But more money for city schools, desperately as it is needed, would not be enough in itself. The very procedure of initiating, developing, and financing requisite educational change should be revised. In general, present procedures do not provide the basis on which to judge: (a) which programs to expand, (b) how much to expand them, (c) how the expansion of any particular program should be related to overall needs, and (d) how much money to allocate for the changes contemplated to achieve the results desired.

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[3] Cited in *Quality Education in Milwaukee's Future: Recommendations to the Citizens Advisory Committee to Comprehensive Survey of Milwaukee Public Schools and the Milwaukee Board of School Directors* (New York: Academy for Educational Development, 1967), pp. 78–79.

An improved procedure for financial planning is the "program budgeting" long used by business corporations and now being adopted by the Defense Department and other agencies of the Federal government. Using this procedure, a school or school system determines *precisely* what ought to be done to improve educational programs, allocates the necessary money and people, and then does what has to be done to reach the specific objectives established. Evaluation of costs as related to educational gains is an important aspect of program budgeting.

Alternative Solutions

Where will the necessary increased funds come from? Since the great depression, property taxes—still the main source of school financing—have been declining relative to other sources of funds for public schools.

The levy of additional property taxes is one conceivable way to provide the additional money needed for education. However, property taxes based on assessments of real estate rarely reflect the true value of property, even after equalization techniques have been applied. More important, property values do not share proportionately in increased levels of income and production. And tax levies on property are subject to a wide variety of local resistances, including statutory and, in some cases, constitutional restrictions designed to prevent tax-rate increases. Organized opposition by taxpayer groups now appears to be augmented, in community after community, by a much broader opposition to increased levies for schools. In the years immediately ahead, therefore, property taxes can hardly be expected to provide the increased revenue needed to finance the improved education the times require.

An alternative solution is a combination of income taxes and sales taxes, since these would harness both State and Federal taxing powers. Unlike the local property tax, these taxes reflect increased volume of income and production. They would meet greatly expanded expenditures for urban schools without hampering the economy, local or national.

A subordinate alternative would choose between State and Federal taxes. In general, the basic principle of using State-wide taxing power to equalize educational opportunities throughout the State has long been an established policy, and State equalization has undoubtedly encouraged educational improvement. Until now, however, only the Federal government has recognized the special problems which high density and poverty bring to large city school systems; but Federal funds, while growing in importance, are still not adequate to make a real dent in these problems. Therefore existing inequities in State equalization programs and what to do about them are critical public policy issues.

There is no doubt that the people of the United States can pay for the kind of education and the quality of instruction that they want for their children. The problem is now, as it has always been, how to make available for public schools everywhere a relatively small—but at least adequate—percentage of the income and productivity of each city, metropolitan area, State, and of the Nation as a whole.

CURRICULUM: WHAT SHOULD BE TAUGHT

The Problem

The schools are an agency of society, and society's needs and concerns at a given moment in history have always, within limits, legitimately shaped the curriculum. Today the American society is changing rapidly in many ways. These changes generate—perhaps more forcefully than ever before—this problem. What should the schools teach?

A brief look at some major social changes will help define the problem. In the first place, the fate of the United States is tied up as never before with the rest of the world. Are our boys and girls learning to understand the wide range of difference in human experience, belief, and culture among their contemporaries in other countries, and are we introducing children to these differences early enough in their school program?

Secondly, the United States is increasingly an urban and mobile society. Technological change climaxed by automation marks—and, at times, mars—our progress. Leisure time grows for most of our citizens. Minority groups are demanding the equal opportunities long promised but previously closed to them. Pressing problems—of racism, air and water pollution, crime, highway safety, misuse of natural resources—impinge more and more on the American way of life. Do the schools provide young people with enough knowledge and understanding of these problems so that they can relate them to their own well-being and to their responsibilities?

A third force affecting the school curriculum is the "knowledge explosion." The amount of new knowledge, together with the numbers of new jobs it produces, is so vast and multiplying so rapidly as to cause, in itself, an educational revolution. Schools have never been able to teach all that students should know, to be sure. The task has become so patently impossible that it places increased urgency on efforts to make formal education more selective in content, more centered on basic concepts.

Finally, the need to reach more and more students, vastly different in their capacities and interests, challenges the standard school curriculum. The challenge strikes education at many different points. Schools are having to develop curricula to meet the needs of teenagers who once might have left school, and at the same time to devise programs for prekindergarten children. The changing ethnic and socioeconomic character of the school population, as a whole, has brought major new needs into sharp focus.

Alternative Solutions

Our society is changing very fast. One response is to keep the curriculum essentially the same, stressing the basic academic subjects and striving to make them more available and relevant for a wider range of students.

A second approach would be to broaden the curriculum constantly, striving to keep the various subjects up to date, and to meet the changing needs of different kinds of students. This is the add-it-on approach, constantly attempting to make room for more things in the curriculum—international study or African languages, new technical courses or more advanced mathematics offerings.

A third approach is to establish priorities among the elements of the curriculum. One criterion which has gained favor recently is: whatever will help students "learn how to learn"—using procedures and materials which help the student learn how to acquire the particular knowledge and achieve the understanding *he* needs largely on his own. With this approach, for example, schools would strive for greater student understanding of international affairs and of the dramatic changes and problems of American society, without introducing huge quantities of new material into the curriculum. Instead they would try to train students in the basic processes of discovery and analysis that specialists apply to problems in their fields.

TEACHERS AND TEACHING—WHAT KINDS OF TEACHERS AND TEACHING ARE NEEDED?

The Problem

The most important—and expensive—single resource the school contributes to the quality of learning is the school's professional staff: instructional, supervisory, administrative, and special services, remedial instruction, guidance, psychological counseling, etc. Virtually every school system in the country faces difficulties in finding enough qualified teachers. But the problem goes beyond mere numbers.

As the school population, particularly in the cities, becomes increasingly heterogeneous, schools will more and more need sensitive teachers who understand the nature of individual differences and who, by background and training, are prepared to deal with them effectively.

Teachers now and tomorrow must not only understand students better, but their subjects, too. Ten years from now, any body of knowledge mastered by a college graduate today will be largely obsolete. Yet ten years after college is just when a teacher is reaching the peak of performance and responsibility. Obviously, constant in-service training is a necessity.

Supervision of teaching raises other problems. The responsibility for instructional supervision in most American school systems rests primarily on the central office personnel, on school principals, and, in secondary schools, on the department chairmen. This "standard" form has generally served the schools well.

There are, however, two major dangers in the standard approach:

1. The inherent possibility that the ends of supervision may come to be increasingly identified with systemwide uniformity and conformity; and

2. As well-organized supervision becomes increasingly "available" to both schools and teachers, teachers—particularly new, beginning teachers—may come to rely too heavily on supervisors for direction, make understandable efforts to satisfy what they perceive as the supervisor's wishes and suggestions, and be correspondingly less inventive and creative in their teaching.

Alternative Solutions

There is widespread agreement that we need more teachers, better trained teachers, teachers who are able and willing to keep their knowledge and techniques up-to-date, better conditions for teaching, and more effective supervision. How can these be obtained?

One approach is to merely continue the trends of recent years, gradually raising teachers' salaries to attract and hold more capable people, and strengthening preservice and in-service programs wherever possible.

For example, schools could extend their efforts to recruit teachers whose familiarity with the social and behavioral sciences embraces more than a cursory and elementary knowledge of psychology, anthropology, economics, political science, and demography. A strong preparation in these fields, reinforced by clinical experience, assumes sharp relevance to the overall competence of teachers whose work will increasingly compel them to understand the day-to-day realities of life in city slums.

For teachers already at work in the schools, substantially better in-service training programs could accomplish much. Such programs need to give particular attention to:

(*a*) Direct and sustained efforts to improve and fortify the teachers' understanding of individual and group differences.

(*b*) Adapting and making instructional methods more relevant to both individual and group differences.

(*c*) A better understanding of the existing social, economic, and cultural forces.

As to conditions of teaching and supervision, the constant pressure to reduce the size of classes and to provide additional help to the classroom teacher have certainly proved of some value. However, this approach has hardly brought about sufficient school improvement to meet present and future demands.

Some educators have suggested new ways to achieve better teaching. They suggest, for example, that while efforts to reduce the average size of classes be continued, schools should also consider other promising approaches to the matter of class size, some of which have had a limited "try-out" in enterprising school systems, but none of which has apparently been encouraged on a system-wide basis in many large school systems. Among these the following deserve special mention:

1. Team teaching, which provides flexibility in grouping and regrouping students into small, medium, and large groups, depending on the particular instructional purpose and method. Team teaching arrangements, typically, place responsibility with the teachers composing the team, and do not require any change in schoolwide scheduling. The same flexibility in increasing numbers of secondary schools is being achieved through departmental responsibility for grouping and regrouping on a basis approaching "at once and at will."
2. Use of the new educational technology to facilitate instruction of large and small groups, and self-instruction as well. Television and the "self-teaching" machine are two examples.
3. Computerized scheduling which can, with careful planning and advance programing, achieve more flexible schedules with a minimum of irreconcilable conflicts.
4. More flexible treatment of time and the number of time periods into which the school day is divided.
5. Wider opportunities for independent learning under conditions which do not require the physical presence of a teacher.

6. The use of nonprofesionals to assist teachers and administrators. Their recruitment and training will be an important undertaking for the public schools. Key attributes for these aides are a liking for children and a willingness to work as a team member. Judicious recruiting of nonprofessionals could also encourage some of them to prepare for full-time careers in teaching.

As to the supervision of teaching, its major function should be to help the teacher to identify his unique strengths, to organize and improve them, and to teach at the top of his capacities. High-level supervision should be a stimulus to the teacher to be creative, to be self-critical, to improve. Imaginative supervision of this kind, many critics contend, is not apt to flourish in a highly centralized, bureaucratic setting. While in large school systems the central office obviously must assume overall responsibility, the fulcrum around which supervision is organized should be the individual school.

FACILITIES—WHAT KINDS OF FACILITIES WILL BE NEEDED?

The Problem

In the 20 years since building materials again became available for public construction after the close of World War II, the American people have built more classrooms, school libraries, gyms, athletic fields, auditoriums, lunchrooms, and other educational facilities than had been built in the entire previous history of the country.

Yet today, a generation after the start of the greatest school building boom ever, with some $50 billion of new construction already completed, the need for new schools and additional classrooms continues high. School authorities are constantly confronted with the need for additional educational space, better space, and remodeled space. Despite mammoth programs of planning, financing, site acquisition, designing, and construction, school facilities rarely keep up with the growth and change of population.

But sheer space is only part of the problem. The question is not only how much to build, but where and what. Most schools built today are built on the general model of the schools which school board members and school administrators once attended. Rarely is consideration given to the fact that the needs of the community and the requirements of effective instruction have changed or are changing rapidly. New ideas, ranging from educational parks to the use of carpeting, are not often considered. Flexible schools which permit teachers to break out of the egg-crate pattern of self-contained classrooms in order to experiment with team teaching, independent study, and other promising techniques are only occasionally designed. In short, educational problems, educational philosophy, and educational methods are changing faster than the design of educational facilities. The result: rigid walls that constrain education into old patterns and inhibit new ways to organize a school for maximum effective learning.

There is good reason, in many cases, for following this essentially conservative approach. Teachers are accustomed to traditional school design, and often resist innovation. Also, the problems and the costs involved in such construction are familiar. Undoubtedly, a very large proportion of the school construction in the seventies will follow the traditional approach.

In addition to the problems of quantity and quality there is an additional problem which particularly afflicts the central core of the cities. Obsolete schoolhouses have for too long, in too many deteriorating neighborhoods been the very symbol of the surrounding decay, according to Harold Gores, president of the Educational Facilities Laboratories of the Ford Foundation. The school is almost never equipped to serve the community at large. Mr. Gores also says:

> Increasingly, society is asking that new schools be planned in such a way that they are integrated or, at the very least, so that segregation is substantially reduced. And the new schoolhouses must be equipped with or designed to accommodate, facilities for the community services they inevitably will be asked to provide.

Alternative Solutions

One approach to problems raised by school facilities is to proceed cautiously, building schools when and as the need becomes critical, and designing them pretty much as we always have designed schools. This is the policy which is frequently followed, for a number of compelling reasons—because it seems more economical, because the community is suspicious of newfangled designs, because administrators and teachers want buildings like the ones they are used to.

A second approach is to speed up the process, by finding the money to build more schools *faster*, but still to plan, build, and place them in the conventional way. This approach meets the immediate problem, but is not apt to produce schools that encourage educational change or that help to alleviate the crisis in our cities.

A third alternative is to apply more money in new ways, planning and placing facilities so that schools can more easily adopt promising new procedures and can effectively assume their civic role.

To adopt this third approach, educational policy-makers need to know a great deal about school construction and design, plant modernization, space utilization, and building maintenance, as well as about the social dynamics of the community. To acquire such understanding and knowledge school systems, individually and in concert with other systems and with business organizations, should undertake a substantial research-and-development program.

EQUALITY OF EDUCATIONAL OPPORTUNITY—HOW CAN THE SCHOOLS PROVIDE GENUINE EQUALITY OF OPPORTUNITY?

The Problem

Current public attention to equal educational opportunity might suggest that this is a new idea. It is, of course, nothing of the kind. Equal opportunity is the very basis—in theory, at any rate—of public education in the United States. But the country's present, long overdue concern with the civil rights of Negroes and other minorities has sharply accentuated the long struggle for equal educational opportunity.

The American public school was created to combat the social inequities of a system that provided education only for the rich or the very bright. The upsurge of concern with equality today is only the latest and most dramatic in a long series of confrontations going back 100 years or more between the public schools and pressing social or individual needs. Over the years America has constantly responded to demands for greater educational opportunity—including such developments as universal secondary education, education of the mentally and the physically handicapped, the advanced placement program, neighborhood schools, school-district consolidation, community colleges.

Thus public education has over time broadened its scope and procedures and has tried to give each child the opportunity to become all he is capable of becoming. While educators and laymen agree that every child should have this opportunity, it is difficult to reach a consensus as to how equal educational opportunity may best be ensured. The difficulty is not surprising, perhaps; putting this ideal into practice hinges on many things we still do not know enough about and on which we often disagree—the conditions which foster equal educational opportunity keep changing.

What worked well enough for generations past, in school materials, school organization, teachers and techniques, will not necessarily work well for the latest arrivals in the seemingly never-ending parade of "disadvantaged" youngsters passing through our schools.

Alternative Solutions

One approach to this pressing and pervasive problem is to strengthen and increase "compensatory education" programs. The programs which have sprung up around the country in the last few years strive to include the following elements: better staffing; more effective teaching; use of new materials, methods, and technology; provision of psycho-educational diagnosis and treatment; flexible grouping to fit different instructional purposes; extensions of the school; development of social support; wider and more stimulating out-of-school experiences; financial assistance; skilled guidance to opportunities in work or advanced education; remedial instruction in academic skills; procedures which seek to raise the expectations of teachers, students, and parents in order to overcome negative attitudes which impede learning; work with pre-school children in verbal skills, the arts, games, etc.

However, Dr. Edmund Gordon, who recently completed an exhaustive study of the nation's compensatory education programs, says: "Despite all our current efforts, tremendous gains are not being achieved. We are probably failing because we have not yet found the right answers."

If the compensatory-education approach falls short, what might work better? Some people argue that full integration is the only answer, but the demographic and housing concentrations in the larger cities make this a long-range prospect at best. Of course, minimizing racial isolation, at least in school, is a basic aspect of compensatory education. Thus, a minimum program, which is properly directed at helping each individual child, arranges for students of different ethnic, social, and economic backgrounds to share significant and stimulating experiences.

Other, more enterprising strategies which have recently been tried with success include:

(*a*) Capitalizing on a program of school modernization to facilitate, if only for a time, great increase in the contacts between students of different backgrounds from different parts of a city.

(*b*) Open enrollment which leaves the choice of school to the individual (within limits of space and the ethnic makeup of the school population) but assures him of free transportation, sound assistance in locating an appropriate school, and the special compensatory guidance if he requires it.

(*c*) Reorganizing the grades assigned to two or more schools to include a greater cross section of the community in each.

(*d*) Concentrating most or all of the public school services on one site (or in large cities, on a number of strategically located sites) so that the children come from many different parts of the community from kindergarten age through high school. These concentrations are often called educational parks or school villages.

(*e*) Developing a number of specialized schools (or specialized programs within comprehensive schools) which will, because of their excellence and uniqueness, attract students from all over the community.

(*f*) Using school buses to move students to under-utilized schools which are more attractive physically, socially, and intellectually than those the students normally attend. This procedure has been used within cities and between them as well.

(*g*) Drawing (and from time to time, redrawing) attendance boundaries in order that each neighborhood school may reflect something of the composition of the larger community.

(*h*) Clustering a number of elementary-school districts, allowing students to attend any one of the schools in the enlarged district, and thus encouraging more diversified enrollment.

The results thus far of school experimentation along these lines suggest that no one arrangement or combination of arrangements is wholly satisfactory. The problem will continue to demand great ingenuity and creative endeavor.

EVALUATION—HOW CAN QUALITY BE MEASURED?

The Problem

Public interest in education today is very strong. What happens in the schools and to the schools is important to everyone. Politicians, businessmen, PTA presidents, League of Women Voters study teams, civil rights leaders, members of school boards, school teachers, principals, parents, and many others are searching for an answer to the question: How good are our schools? How can they be improved?

This question is asked incessantly across the country by people concerned with the quality of public education. The answer they get usually begins: "It is impossible to measure the quality of education precisely because. . . ."[8]

Part of the difficulty is that the perceptions of those asking the question vary tremendously. Businessmen, politicians, and taxpayers generally would like to hear that everything is fine and that no tax increase will be necessary. Employers who hire school graduates have their views—often subjective—and are not about to change them no matter what a report might say on the subject. Parents in turn approach the problem with different perceptions and different blindspots.

The concern of educators with questions of educational quality is often discounted as the opening gambit in a campaign for more money.

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[8] The Chamber of Commerce task force on economic growth and opportunity observed in its report on education that "There is little information to measure the quality of the public school 'output'—the student or graduate."

Many businessmen are prone to relate "quality in education" to "efficiency" in industry and business; they want "hard" evidence that spending more money for schools will produce correspondingly more efficient employees or lead to lower costs at a later time. Many Americans would be willing to spend more on schools if they could be sure money would produce quality.

Attempting to measure the quality of a school system is, and no doubt will continue to be, one of the most frustrating and least successful endeavors of educators, though some useful starts have been made.[4] Those who seek a simple answer are the most frustrated. The quality of education involves many intangibles which are difficult if not impossible to measure. It reflects, in sum, a delicate interplay between the child's home environment, the environment of the school, and the community itself. In some cases the home may reinforce, enrich, and otherwise strengthen the teaching and learning provided by the school, but the influence of the community may be negative or outright destructive. In other instances the influence of the home may be neutral; at worst, it may tear down or impede the efforts of the school.

Every public school system seeking to improve itself wants yardsticks by which to appraise its success. Actually, the extent to which a school system seeks evidence of its shortcomings (strengths are usually quite obvious), discusses them openly, and proceeds to do something to remedy them becomes one measure of quality. Given the importance of education to the individual and to society, plus its high cost, it is no longer enough to tell the public—children, parents, all interested citizens—that educational quality is too complicated to measure or to hide weaknesses under meaningless statistics or blame them on lack of money.

Alternative Solutions

Although the *precise* measurement of educational quality may be impossible, there now exist yardsticks by which to gauge a program or school or system. For example:

1. In a large city system, serving a multi-ethnic school population, is recognition given to the wide range of student capacities, talents, and needs? Does the system advance each child to his highest possible levels of achievement?

2. How well does the system draw on all available resources to meet the educational needs of each individual child? Does the system generally view these resources as limited to the school staff, the system-owned buildings, the school-owned equipment; or does it include the city, the county, the state, and for that matter, the nation as a whole? Large city schools tend to be particularly unimaginative in making maximum use of the myriad resources available—in the immediate neighborhood as well as far afield.

3. How successful is the system in releasing the creative abilities and innovative talents of administrators and staff? Does the system maintain a vigorous research program to find new ideas, and also encourage its personnel to do the same in their various assignments?

4. How well do the students do when they leave school, not just in their livelihoods but in their lives? Many people think this is the most important standard against which school quality should be judged.

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[4] A recent publication of the National Education Association called ***Profiles of Excellence*** can be used by individuals or groups to review the activities of a school system or of individual schools.

5. Studies which follow the progress of individual students over the length of their school career and after are especially important in education. In fact, without such longitudinal studies of a carefully drawn sample of children, the impact of a school's program and procedures on each child can only be inferred from unrefined statistics.

6. Have appropriate steps been taken in recognition of the "knowledge explosion" and of the growing futility of trying to cram students with facts?

INNOVATION—HOW CAN CHANGE, BASED ON RESEARCH AND DEVELOPMENT, BE ENCOURAGED?

The Problem

The educational problems facing America today cannot be solved, in the time and with the resources available, by merely attempting to duplicate conventional educational patterns. The nation's most imaginative educators recognize that putting more money into the old ways of doing things will no longer suffice. The world is changing too fast; the knowledge explosion, the urban crisis, and other pressing problems pose too great a challenge.

Quality and innovation are as closely bound together in education as they are in industry, but few people realize it. The major companies in the United States today spend between 3 and 4 percent of their income on research and development. It would be hard to exaggerate the benefits that could accrue if school systems and colleges spent 3 to 4 percent of *their* total budgets on planning new developments and improvements. A school system, however good its past and present reputation, which is not experimenting today with new ways of improving education is probably slated for decline. Today good education is largely synonymous with innovative education. Innovation means change.

The past ten years have accomplished much in extending the frontiers of education. The end is not in sight. The accomplishments fall into three major areas.

1. The Harnessing of Modern Technology to Education. The apparatus of schooling has been transformed. An industrialized society based on electronics, automation, and computers, for example, cannot afford to drag behind it an inefficient educational system still dependent on the blackboard and the slide projector.

2. The Radical Revision of Education's Pattern. The conventional ways of training, organizing, and deploying teachers and students are coming under increasingly sharp scrutiny and reexamination. The standardized school, serving only a very limited neighborhood and composed of identical, self-enclosed classrooms, is becoming more flexible and functional educationally and geographically. Teaching is being tried in teams rather than solo, with each team member concentrating on his strongest technique or specialty. The system of grades has begun to disintegrate, with students permitted to progress at their individual rates in each subject. Teachers are beginning to assume a new look, too, through training programs which stress broad liberal education, meaningful practice teaching, sophisticated professional courses, and the use of technology.

3. The Development of New Ideas About How Students Acquire Knowledge and Understanding. With an increasing recognition of the

great varieties of human ability unmeasurable by IQ tests, steps are being taken to exploit the student's intrinsic drive for learning.

In short, education in the United States has now entered upon an intensive reexamination of some fundamental assumptions. Schools are looking hard at the old ideas—the fixed class size, the measurement of learning by the number of years spent in school, the self-contained school—and often modifying them or replacing them by new principles. Especially in schooling for the disadvantaged, change—change in policy and practice—is the byword in most of our cities.

Still, the innovative approach which so permeates American business has not yet thoroughly pervaded education.

Alternative Solutions

There are several current approaches taken to research-and-development and to innovation in school programs and practices. Many people argue that educational quality is determined by teachers' salaries, resources, and facilities, which they consider more basic than innovation. They would consider innovation appropriate only *after* such basic requirements have been met. Another approach assumes that experimentation and innovation are luxuries for the school which already has achieved quality—a bonus for the affluent suburban school but irrelevant for schools in the slums.

Another common approach associates innovation with educational emergencies. Indeed, a recent study made in California by Systems Development Corporation indicated that innovations are most likely to take place in schools which are new or undergoing rapid growth. Typical of the causes which seem to trigger innovation are rapid population growth, major changes in the composition or economy of the community, the pressures of organized groups, or challenges such as Russia posed when she launched Sputnik. But today all these factors—rapid growth, major changes, and pressure from people vitally interested in the schools—are becoming the standard conditions of the typical American community.

A NATIONAL PROGRAM OF EDUCATIONAL RESEARCH AND DEVELOPMENT: A FEDERAL REALIZATION OF THE SEVENTIES

Kenneth W. Tidwell, Executive Director, Southeastern Education Laboratory, Atlanta, Ga.

When educators are asked to look ahead and make suggestions for the formulation of national educational policies, particularly those policies which the Federal Government will support and administer, all too often they try to reinvent the educational wheel. They cite impressive—even alarming—statistics and quote noted pedagogues purporting to show that the old way *has not worked* and *will not work;* then they call for bold and inevitably new programs designed to maximize and/or revolutionize the two basic functions of education: teaching and learning.

A review of Federal legislation of the past two decades shows that current educational policies, for the most part, have been triggered by crises from both within and without, both real and imagined. These crises, which have been loudly acclaimed by special interest groups, articulate educators, and even military leaders, have produced expensive legislation designed to serve these vocal groups in present-day society. Education for defense; education for the disadvantaged; education for the unskilled; education for teachers; education for the mentally and physically retarded; and education for the poverty pockets have been provided. In short, where an educational problem has been identified, it is not hard to find Federal legislation that has already been designed to deal with it.

It is not the purpose of this paper, therefore, to propose new Federal education programs to add to the glittering tier of presently enacted legislation (there is already enough Federal legislation on the statute books), but rather to suggest instead a careful appraisal of present programs to: (1) insure that they are being efficiently managed, (2) see that they do the jobs they were enacted to do, (3) prevent the overlapping and duplicating of services, and (4) see that Federal education programs reflect the Government's intention to attack systematically the educational problems of today's complex culture. The seventies, then, should be a time to reflect on the achievements of the sixties and to relate those achievements to the educational problems of the decade ahead, in order, to use the words of President Nixon, "to reorder our national priorities." With this premise in mind, the writer should like to review the genesis and growth of educational research and development in the sixties and to suggest some ways in which this essential educational activity can contribute to the accomplishment of our national priorities in the seventies.

The Sixties—A Beginning

Educators generally agree that in the early sixties research and development, as an educational endeavor, existed more in theory than in practice. Most educational research was conducted by individual researchers, independently funded, who devoted only a portion of their time to isolated educational problems. Indeed, a critical but realistic evaluation of educational research at this point in its development was rendered by David Clark who said:

> The vital point to be established is that educational research, at this point in its historical development, was clearly inhabiting the periphery of the profession. It could literally have ceased functioning overnight without causing a ripple in the educational scene.[1]

Notwithstanding the passage of the Cooperative Research Act and the National Defense Education Act, the above described condition of educational research existed until the passage of the omnibus Elementary and Secondary Education Act of 1965. Title IV of this act amended the Cooperative Research Act to provide for the establishment of a national network of research and development centers in universities and for the establishment of regional educational laboratories strategically located throughout the country. The passage of this act clearly demonstrated the Federal Government's recognition of its role in translating educational theory into educational practice and its commitment to *institutionalizing a national program for educational research and development.*

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[1] David Clark, "Educational Research and Development: The Next Decade," *Designing Education for the Future No. 2*, Edgar Morphet and Charles Ryan, editors (New York: Citation Press, 1967), p. 157.

Despite a chaotic beginning and a future darkened by anxiety, the national program of educational research would have to be adjudged a sound though small investment of the Federal dollar. Unfortunately, and perhaps because the implementation of a national educational research program was expected to yield immediate benefits through improved educational practices, the research and development centers and laboratories in their embryonic years were victims of erratic policy statements and uncertain funding, which created difficult problems for these emerging institutions.

Centers and laboratories were subjected to so many problems involving overall policies and priorities that they lost sight of their formulated goals and resorted to "reactive management" of their programs in an effort to please constantly changing emphases and directions.

Erratic policy statements and decisions and the lack of long-range financial security, together with the pressure for the research and development centers and laboratories to rush into the educational marketplace with an innovative product, prevented the success that was needed and expected. This confusion and unreasonable pressure caused some laboratories to fail and their demise is a matter of record.[2] Those which resisted gained time in which to plan, organize, and establish their own goals and directions based on regional and national needs.

Perhaps an undertaking of such size and scope as the creation of a national program of educational research and development had to be marked by a period of confusion and painful experiences; however, those institutions that survived the late sixties emerged as viable organizations which, in the words of Francis S. Chase ". . . are demonstrating the possibility of systematic adoption of knowledge and technology to educational use . . ."[3]

Professor Chase, who has made several comprehensive studies of the educational laboratories, also acknowledges the good return on the modest investment the Federal Government has made in these organizations and the expectation for increasing the returns from all educational expenditures through the continued operation of the national educational research and development program.[4]

The sixties, then, may well be summed up as the decade in which the Federal Government launched educational research and development. Admittedly, it was also a period of trial and error at all levels of administration in research and development; it was a time of settling in, of defining roles and objectives, and of finding out how to get the job done. Educational research and development in the sixties required the creation of a new kind of professional educator—one who could speak the language of both the researcher and the school practitioner and who could also invent and use, with others, a new process for solving educational problems. It required the adoption of a formalized process for developing new educational techniques and materials, rather than dependence upon an individual's creativeness.

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[2] Of 20 laboratories originally funded, only 15 laboratories are in operation as of this writing.

[3] Francis S. Chase, "The National Program of Educational Laboratories" (Washington: U.S. Department of Health, Education, and Welfare, December 1968), p. 62.

[4] *Ibid.*, p. 62.

The Seventies—A Realization

Just as the sixties were the beginning of research and development centers and laboratories, the seventies now become the time for the effective utilization of the resources and leadership of the Federal Government for the establishment of a national program of educational research and development on a permanent basis. Formulation and implementation of fiscally strong and educationally sound Federal policies will give assurance to the American educational community that the Government intends to honor its commitment to provide the schools of this Nation, *through research*, with the best materials and techniques with which to solve the critical problem of what and how to teach children and to provide them with the appropriate education needed for life and for the world of work.

Increased Funding

In formulating Federal education policies generally and educational research and development policies specifically, legislative leaders and Federal education officials should seriously consider adoption of funding to a sufficient level to insure success. Although title IV, Public Law 89–10 (Elementary and Secondary Act of 1965), authorized $100 million [5] for educational laboratories for each fiscal year, 1966 through 1970, approximately one-fourth of that amount has actually been appropriated each year. For example, in the writer's opinion, the estimated appropriation of $25.75 million [6] for the fiscal year 1970 is an insufficient appropriation by Congress for a meaningful national program of educational research and development. It is quite perplexing to compare the fiscal 1970 appropriation for the National Science Foundation of $440 million with the anticipated $25.75 million for educational laboratories when one realizes that with the latter sum, the laboratories are to formulate, field test, and refine curriculum materials and procedures for adoption by local school systems.[7] The irony of such comparison is that with an anticipated appropriation for laboratories equal to 5.8 percent of the actual appropriation for the National Science Foundation, the laboratories are expected to have a "demonstrated effect upon the improvement of (nationwide) school practices.[8] The significant sum invested in the National Science Foundation, however, is not expected to produce comparable results in the science discipline.

The writer enthusiastically endorses Professor Chase's prediction that laboratories could double their effectiveness by an increase of only 50 percent over current level expenditures. He recommends that within the present definition of laboratory missions the Government's minimum investment in each laboratory should range between $3 and $10 million per year.[9]

Long-term funding

Another important need which Federal policymakers should consider along with increased funding is a plan which will assure the national program of educational research and development a life expectancy of more 1 year. One could accurately speculate that the space exploration program would not have achieved its historic success, if it had been compelled to function on the tenuous basis of 1-year funding. The Congress should commit itself to a federally funded 10-year program of educational research and development to permit research and development centers and laboratories to conduct long-range planning; to attract and retain competent professional personnel; to eliminate much of the competition among universities, State departments of education, and research-oriented agencies for Federal funds; and to encourage cooperation and information-sharing among laboratories. Contracts with the research and development agencies should be written to cover at least 10 years with a minimum level of funding specified for at least 5 of those 10 years. This kind of long-range plan would be workable even though funds had to be appropriated annually, based, of course, upon satisfactory performance review.

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[5] U.S. Office of Education, *Fact Book—Office of Education Programs* (Washington: *Office of Administration*, June 1963), p. 68.

[6] U.S. Department of Health, Education, and Welfare, *Catalog of HEW Assistance* (Washington: U.S. Government Printing Office, August 1969), p. 2.13.1.

[7] *Ibid.*

[8] *Ibid.*

[9] Francis S. Chase, "The Laboratories: 1969 and Beyond" (undated paper), p. 27.

National Assessment of Educational Needs

In the middle sixties, educators conceived the idea of "national assessment of educational needs," which engendered in the public mind the belief that resources of the Federal government would be devoted to a cooperative effort of the States to identify and to articulate public educational needs of the Nation. Such a plan, although laudable and actually feasible, has not been activated; nor has it been given the impetus of Federal leadership to which it is entitled. The consequences of such failure have been the weak attempts by private foundations to fund study programs aimed at identifying and categorizing in an hierarchical structure the needs of public education; the individual States have also launched public education assessment projects designed to produce definitive statements of needs which can be integrated into a total education program for each respective State. In the southeastern region, the Georgia State Board of Education created a commission on educational goals and appointed 10 outstanding lay citizens to "predict the probable social, political, and economic state of affairs through the 1980's." The commission was asked to describe

> the society of Georgia in the 1980's by synthesizing the emerging social, political and economic conditions with the forces of technology, demography, etc., into meaningful "futuristic" goals for an education relevant to the needs of all Georgians.[10]

Similar projects are being created across the country as political and educational leaders become aware of the importance of evaluating the public education program today against the role it must fill in the future—a future clouded with an array of problems which the Nation, collectively, thus far has not been able to solve: tremendous explosion of knowledge and information, acceleration of technology, ecological problems of unmeasureable dimensions, social disorganization, and the critical need to begin a *quest for quality* as a national characteristic of education, employment, and other human endeavors.

How can private foundations, individual States, and to a lesser degree the Federal Government be expected, through inadequately funded projects, to measure a significant degree the needs of a public education program which will serve a society inundated by social, economic, and environmental problems? The answer simply is, they cannot; their efforts are vitiated by a kind of provincialism which prevents a broad perspective essential to educational problem solving.

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[10] Georgia Department of Education, "Press Release" (Atlanta: Mar. 19, 1969), p. 1.

Unless some enlightened thinking and planning begin at the Federal level, educators will continue to develop educational programs in crazy-quilt patterns, without regard for their implications for a highly mobile society and for the overall need for quality education and high standards of performance.

Federal policymakers should begin to describe a minimum program of public education. Such a program should identify and define the essential elements of a comprehensive elementary and secondary education program to serve the gifted, the college bound, the vocational trades oriented, and the handicapped.

A plan for such a program could evolve through the educational research and development program. As part of the President's suggestion to "reorder our national priorities," specific roles could be assigned to the research and development centers and laboratories to collaborate on the development of comprehensive elementary and secondary education programs. Indeed, the real value of the research and development centers and laboratories in the seventies will be measured by the extent to which they help solve educational problems related to national priorities.

A Federal Department of Education

The needs of public education can be served by upgrading the Office of Education to Department status. It is obvious that the functions of health, education, and welfare are as equally important to our national well-being as transportation and housing, both of which are Cabinet-level posts; yet, the three vital Federal leadership responsibilities of health, education, and welfare must be borne in the President's Cabinet by one man. One man, however competent and conscientious, cannot provide the most effective leadership for such diverse functions as health, education, and welfare; nor can he be expected to be an expert adviser on these complex areas for the President and the Congress when his time and energy are diluted by three.

Separating the present Department of Health, Education, and Welfare into three departments would also bring the Federal organizational structure into line with that of most States which maintain separate agencies for these three functions, thereby improving the coordinative relationship of State and Federal agencies.

Conclusions

The conclusions of this paper, simply stated, are these:

1. The work toward a national program of educational research and development which was begun in the sixties can become substantive before the end of the seventies, but only if the Federal Government takes a bold approach to programing and institutionalizing educational research and development. Because educational research and development can be performed more efficiently and economically at the Federal level than it can be by individual States, universities, and private foundations, the first priority for Federal funds should be a national program of educational research and development.

2. Institutions in the form of the present research and development centers and laboratories are capable, through enlightened Federal leadership and appropriate national organization, of accomplishing the objectives described in this paper; however, the essential elements of sufficient-funding level and long-term funding are needed. Dr. Goodlad reinforces this conclusion by saying, ". . . we need . . . a much greater commitment to protected, funded, and superbly staffed, long-term inquiry [into educational innovations] of a sort that neither the Federal Government nor the private foundation is now providing.[11]

3. The Federal Government should undertake, with the same degree of commitment that accomplished the moon landing, a comprehensive and well-coordinated effort to assess the status of public elementary and secondary education. This assessment should identify and define the elements of a minimum program of public education that combines finance, organization, instruction, and facilities within the framework of technology into a quality education program. Only through this kind of effort will a true reform of public education be achieved.

4. The present organizational alinement of the Department of Health, Education, and Welfare should be separated into three departments. Both the quality of leadership and the coordinative relationships with the States would be greatly improved by this action.

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[11] John I. Goodlad, "The Educational Program to 1980 and Beyond," *Designing Education for the Future No. 2*, Edgar Morphet and Charles Ryan, editors (New York: Citation Press, 1967), p. 52.

EDUCATION AND EDUCATORS IN A CHANGING SOCIETY [1]

Melvin M. Tumin, Professor of Sociology and Anthropology, Princeton University, Princeton, N.J., and Visiting Research Sociologist, Educational Testing Service, Princeton, N.J.

Ability, Motivation and Evaluation:

Urgent Dimensions in the Preparation of Educators

One cannot speak of the preparation of educators for prospective changes in society without specifying which changes one has in mind. For that would be analogous to saying that the function of the schools is to help each child to maximize his potentials. Since each child has potentials for all kinds of things—good and bad—every educator obviously has to choose those which he will seek to "maximize." So, too, since prospective changes in society include everything from misery to joy, and from increased affluence to increased international conflict, someone (or some group) has to make careful choices.

Many of the prospective changes in society are "value-neutral" in the sense that they do not contain any inherent values. One such instance is the predictable increase in technology and "hardware" that might be incorporated into the educational situation. Technology, as such, is neither "good" nor "bad" by any of the numerous and competing criteria of value, except for the sentimentalist approach that erroneously sees machines as necessarily dehumanizing the educational transaction.

In addition to such value-neutral changes, the immediate and long-range futures promise (or threaten) many changes that *are* value-laden in the sense that inherent in these changes are certain directions in life and society on whose moral quality our culture has already stamped its general approval or disapproval. Examples in point are the current demands by the communities of youth, black people and women for greater participation in the perquisites of first-class citizenship. The pressure in these demands is toward more freedom, more equality, and greater sharing in the rewards of citizenship. These values fall squarely within the framework of the "liberal democratic" ethos. One therefore favors them or is opposed to them. Favoring them and sponsoring them will increase their probability of occurrence, while opposing them will decrease that probability. Those concerned with the preparation of educators must obviously choose which way they will opt in these issues.

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[1] Reprinted from *Preparing Educators To Meet Emerging Needs*, Reports prepared for The Governors' Conference on Education for the Future, Designing Education for the Future: An Eight-State Project, Denver, Colo., March 1969.

Even in value-neutral situations, however, a choice has to be made as to which goals and values the changes will be made to serve. How shall we use programmed instruction? For further individualization of education or for even more mass uniformity? The decision will depend primarily on what we otherwise value.

SOCIETAL AND EDUCATIONAL GOALS

One cannot escape, it is clear, from postulating one's own vision of a desirable society and a corollary desirable type of educational system. Only with some such specification of "ultimates" or "goals" or "criteria" can one justify his choices, whatever they may be. Thus, if I am primarily interested in the preparation of talented elites for the staffing of crucial social positions, I shall be significantly less interested in providing continuing education beyond the traditional 12th year for all students than I would be if my "goal" were to provide equal, quality education for all students.

Thus, in searching out guidelines for recommending how educators ought to be prepared for the society of the future, I must postulate my own notions as to what I consider ultimately desirable and important in education and society.

If, therefore, I am now to speak about how one ought to prepare teachers or other educators to meet the world of the future, I must specify what kind of future I want to have, insofar as the schools are concerned.

My goals of education can be simply stated. Adapted from the Pennsylvania State Quality Education Project, these goals read as follows:

Quality education should help every child to:

1. Acquire the greatest possible understanding of himself and an appreciation of his worthiness as a member of society.

2. Acquire understanding and appreciation of persons belonging to social, cultural, and ethnic groups different from his own.

3. Acquire to the fullest extent possible for him mastery of the basic skills in the use of words and numbers.

4. Acquire a positive attitude toward school and toward the learning process.

5. Acquire the habits and attitudes associated with responsible citizenship.

6. Acquire good health habits and an understanding of the conditions necessary for the maintenance of physical and emotional well-being.

7. Secure the opportunity and receive encouragement to be creative in one or more fields of endeavor.

8. Understand the opportunities open to him for preparing himself for a productive life and enable him to take full advantage of these opportunities.

9. Understand and appreciate as much as he can of human achievement in the natural sciences, the social sciences, the humanities, and the arts.

10. Prepare for a world of rapid change and unforeseeable demands in which continuing education throughout his adult life should be a normal expectation.

Stated this way, these goals are not yet operationalized. A great deal of work is needed before they can be specified in terms that are susceptible to measurement. But that work is underway in many quarters. It is not, therefore, on *that* task that I mean to focus here, but rather on certain key concepts and practices in education in the United States today that require serious reformulation and revision if the vision implicit in those goals of education is to have any chance of becoming a reality.

For there *is* a vision contained in those goals. It is a vision of a free society, peopled by men, women and children *who consider each other as fully equal human beings;* who do not permit differences in religion, economic status, national origin, ancestry or skin color to alter their regard for one another; who accept differences in talent as a fact of nature, but who do not demand that we stamp differential approval on different talents with equal social rewards in honor and in desired goods and services.

Even if such conditions of organized social life in the larger society do not seem within immediate reach, they are at least not beyond envisioning or striving for within the framework of the schools. More than that: *there is no justification in democratic theory for acting in any way other than on the notion that all children in the schools are equally entitled to an equally good education.* That is their entitlement on the basis of the equality of their claim to first-class citizenship in the society of the schools.

Some have argued, contrariwise, that better education of some sort ought to be provided to the "best" students. But students are "better" or "worse" either by virtue of nature or nurture or both. We cannot in good conscience, therefore, allocate more of the good things of school life to children who happen by accidents of birth to be better endowed with certain school-relevant capacities. And we surely may not, by any decent democratic code, allocate special school advantages to those who are more fortunate in regard to the social and economic advantages to which they fall heir. To reward the differences in facts of natural endowment would, in effect, be to substitute an aristocracy of genes and talent for the older aristocracy of family and title. To reward the differences in advantageous social inheritance would be to render the already fortunate more fortunate still. Clearly, neither of these principles can be openly advocated or practiced in a school system that professes a democratic orientation.

If, then, in principle and in practice we are committed to equal, quality education for all children, and if the content of that "quality" is as specified in the goals of education stated earlier, we now must ask: What prevents us presently from living up to our democratic educational mandate and what can we do in the future in the ways in which we conduct schools, and in the ways in which we train our teachers, to bring the ideals of equal, quality education closer to realization?

There are obviously numerous structural obstacles in our path today. These include the diversity of locally autonomous school governances; the great differences between districts in per capita resources and allocations for the education of children; and the lack of requisite human skills and materiel. These are only some difficulties one might mention. These are substantial difficulties and I do not mean to minimize them. But one can see his way out of these problems. They are in principle soluble.

Much more difficult in all ways than such structural problems are those which might be described as arising from a cast of mind about certain crucial dimensions of the educational process. I refer to certain very widespread ways of thinking about children, their abilities and their outcomes. These modes of thought create the kinds of obstacles that make any genuine change in American education most difficult indeed even if all the major structural impediments were removed.

I refer to three main ideas or modes of thought that have to do with (1) ability, (2) motivation, and (3) evaluation.

WAYS OF THINKING ABOUT ABILITY

Perhaps no single concept is at once so central and so problematic in American education as that of ability. Our system is geared to the "discovery" of ability; to the "testing and measuring" of different abilities; to the "identification" of talents; to the "evaluation" and "honoring" and "rewarding" and "punishing" of different levels of capacity as they are expressed in performances; and our social advantages throughout life are distributed presumably in terms of differential abilities, with a supporting notion of the differential entitlement of the more talented to more of the good things of life.

Our difficulties arise primarily from our conception of ability as unidimensional in quality, fixed in level, and unalterable by environmental interventions. But in all three regards we are seriously and dangerously wrong and cause untold injury to ourselves as educators, to our students, and to our society. For we know as surely as we know anything about the makeup of children that "ability" is of many kinds, including, of course, great diversities in cognitive ability or intelligence. We know, too, that the level of ability in any given field, and over numbers of fields, is a constantly shifting volatile matter, and that *numerous kinds of environmental interventions can and do make substantial difference in the level and quality of ability that is available for any given task.*

In place of the traditional and pervasive notions of fixed, uni-dimensional ability, we urge the importance of beginning to think of education as *"the continuous creation of capacity."* Thus, instead of conceiving of schooling in terms of "unfolding" and "discovery", by a teacher, of the natural abilities of a child and applying them to diverse tasks, we think, instead, of the interaction between a child, the teacher and the experiences called the curriculum as a *process of the continuous creation and recreation of new domains and dimensions of capacity.*

Thinking in these terms, we come to realize that everything learned can become not only an addition to knowledge but also, if properly chosen and integrated, an additional capacity to learn more in the future. Increments of knowledge, under the right circumstances, are increments of ability. We stress the qualifying phrase "under the right circumstances" because *for the same reasons that capacity can be increased by learning, it can also be kept at dead level or even decreased.* Useless things can be taught which simply clutter up the mind and leave little room, energy or interest for learning any more. Or, false things can be taught which shut the mind from learning certain new kinds of ideas. Or, attitudes toward knowledge and experience can be taught which restrict, if not reduce, the capacity of the individual for further experience and learning.

If it is true that learning can also be made into the process of the continuous creation of capacity, then it is crucial for the teacher, the school and the school system to be very careful about what they decide to teach the student or have him learn. The materials must be selected not only for their relevance to given problems of immediate interest, but for their potential as horizon-broadeners and capacity-creators as well. *In principle, nothing should be taught in the schools that cannot be shown, or at least strongly presumed, to have a multiplier effect upon the child's capacity.* If the child is asked to learn "X", but "knowing X" does not make him more able to learn more things than he could have learned before knowing "X", then he should not have been asked to learn "X". Here, "learning" must be construed as broadly as the term merits. For, it includes "understanding" and "appreciating" as well as the more restricted meanings of the term "acquiring."

It can be seen that if these principles are followed in the schools and in the training of teachers themselves, we shall be in for some drastic revision in the curriculum. It will no longer be defensible to require children to read books on the grounds that they are "classics" of one sort or another. It will be necessary, instead, to demonstrate that the materials have been shown, or may properly be presumed, to *augment* the child's understandings and appreciations so that he becomes more capable of grasping complexities and dimensions of the natural and cultural world than he could before being exposed to the books or experiences. Nothing will be able to be justified as being valuable in itself. And *since, in fact, nothing is valuable in itself, our principles of curriculum building will finally come to rest on sound philosophical principles,* including the realization that man is the unique creature who invests his world with whatever values it comes to have for him. The corollary principle will also then be realized, to the effect that *man is the active agent of his own destiny.*

Several other important consequences flow from adopting the perspective that education is the process of the continuous creation of capacity. Under the guidance of this principle, it should no longer be possible to stigmatize and brand children with labels of various kinds that refer to the presumed fixed capacities to learn slowly or quickly. Instead, every child will have to be taken as a set of open possibilities, whose profiles of possible development are volatile and diverse, and whose capacities at any given moment are a matter of discovery and exploration through exposure to a variety of nourishing and stimulating materials and experiences. Every child thereby acquires dimensions of uniqueness that he cannot enjoy under more traditional doctrines. For, he now becomes unique not only as distinguished from other children, but as distinguished from himself the day and the hour before the present educational encounter.

Lest it be thought that this vision of the educational process will involve the teacher in an endless round of uncertainty as to how and where to approach the students, it must be understood that it makes perfectly good sense to assume that the child is ready for new materials and experiences at about the level he reached in the previous day or week of exposure. This is a satisfactory working hypothesis that any teacher may use. *But it is only a hypothesis.* For the teachers must always remain open to the possibility that the child is ready not for "more of the same" but rather for an individual "system break"—that is, to go off in somewhat different directions; or, he may be ready to move far more quickly or perhaps far more slowly than he did the day before. The changing profile of capacity is multifaceted and we had better be prepared for different tempos and directions of inclination in our children from one educational moment to the next.

We are admonished, too, by the notion of the continuous creation of capacity, that some selection and choice is always required, not only from among the many educational experiences in which we might involve the child, but from the many things he might become or might learn to appreciate and understand and at which he might become skillful. The "openness" of the child means an openness to all kinds of things. We may not—except at considerable peril of severe loss—assume that the child's openness is always confined to valuable and beneficial development. We are always required to make decisions regarding what we consider valuable for the child and in turn for our society. When we speak of maximizing a child's potential, we can only mean doing that very selectively if we are to make good sense of it. For, the child has the potential to become many things, good and bad, by our own values. Our choices—as well as his choices—are therefore crucial.

There is an even harder kind of choice we must always make and that is from among the many "good things" the child could learn and become. It is all too evident that *early in the usual school career the schools shut down on the artistic and creative dimensions of intelligence as they begin relentlessly to pursue the development of skills in the so-called hard subjects.* A choice has obviously been made, one that is in consonance with some "received doctrines" of practicality, by which math and science and English are conceived as the core intellectual disciplines. The results in terms of parochial and restricted functioning of our children are once again obvious, however much we may celebrate these results because of our tendentious criteria of value.

The fact remains that we can see the creative and imaginative dimensions of mind and of heart of many children being destroyed in the educational process as it is presently constructed, whatever the gains that may be made as a result.

We are forced into this unfortunate choice situation by a misconception of the nature of curriculum, with our insistence on thinking in terms of selected subject matters. This is a carry-over from the Middle Ages—a tradition which goes unchallenged except in certain recondite academic circles. But a moment of reflection will reveal that we need not think in these terms at all, and that the education of our children could be decisively enhanced if we were to think instead in terms of fundamental curricular themes and motifs, such as "man's quest for certainty". To the clarification of such themes a host of diverse materials from a number of different fields of scholarship and learning could be brought relevantly to bear.

With the curriculum so conceived, we would not be forced into bad choices involving the destruction or bottling-up of certain capacities for intellectual and emotional growth of our children. Instead, for any such theme, materials from the "hard" and "soft" subjects could be brought into focus, and our children could learn deeply through art and music as well as through science and English and math. Some notion of the unity and diversity of human experience, and the variety of levels and qualities of human joys and sorrows might come to be more effectively appreciated than is now the case. *The rejection of the world of arts and of music by so many of our youth is no accident in a society whose schools make these subjects "fringes" on the academic cloth,* to be woven in only when and if there is some unexpected time left over from the more important subjects. If we are to educate the whole child in any meaningful sense of that term, we had better take into account the urgent practicality of helping him learn how to enjoy life as well as how to make a living.

WAYS OF THINKING ABOUT MOTIVATION

For some decades, if not centuries, we have been guided by a theory of motivation which is expressed in the aphorism "Where there's a will, there's a way." This formulation embodies not only a motivational theory but a notion of moral responsibility for success and failure and a view of the possibilities in human life. That is admittedly a great deal to pack into a seven word aphorism, and all the more the pity since all three theories it contains are demonstrably false.

The implied notion that if one does not succeed at his tasks, he has only himself to blame, ignores the impersonal, institutional spread of differential disabilities and deprivations among differing segments of the population. It thereby denies the demonstrable presence of social and economic stratification, and the relevance of stratification to the inequalities in basic life chances. The evidence testifying to the presence of such inequalities—and to their relevance to school performance—is perhaps as copious as in any other single major area in the sociology of education.

The implied notion that all problems are soluble if only one *really* wishes to solve them is again demonstrably false. This idea denies the objective and demonstrable reality of obstacles which are often far greater than can be overcome by the resources available to a person, whether these are material or spiritual. If we have long since stopped insisting that rocks are only as hard as we believe them to be, why do we keep on insisting—as we do with this doctrine—that life is only as hard as we believe it to be?

Finally, the implied notion that the lack of desire to achieve is somehow due to a willful withdrawal or hiding of this desire, or a laxity or laziness of spirit, is an idea that runs counter to everything we have learned in the last forty years about motivation, learning, the need for achievement, unconscious mechanisms of self sabotage, and the relevance of social facilitations of aspiration.

One knows a disease by its remedy. The sickness of "lack of will" or laziness is to be treated (popular thinking avers) by the administration of a "good kick in the pants." While one need not infer that the locus of the remedy to be applied also identifies the locus of the illness itself, it is nevertheless apparent that we are dealing here with a most simple-minded and unworkable doctrine.

Motivation is something far more complex and difficult both to construct and to achieve. We may suggest a model which will reveal how complex indeed is the phenomenon. We would argue that motivation varies under the following conditions:

- The goal to be sought after or striven for is perceived as desirable and worth striving for, *by the person whom we are seeking to motivate.*

- *He* must have some comprehension of what are the probable means that will have to be pursued to achieve the goal.

- *He* must have some sense of the costs *he* will incur along the way, and the gratifications *he* will receive both along the way and at the end.

- *He* must judge, in anticipation, the balance of costs and gratifications to be one which *he* tentatively, at least, finds attractive enough to begin striving for.

- *He* must be made able to anticipate the favorable balance of cost and gratification by having human models—contemporary, historical, or both—with whom *he* can identify, and who exemplify or testify to the worthwhileness of striving for the goals in question by the prescribed means.

- As *he* starts tentatively to move toward the goals, *he* must be reinforced at every point—*but most particularly at those points where he is most likely to falter*—by experiences of success. That is to say, his experiences of striving must be so structured that it is possible for him to experience success, or at least to avoid the kind of "failure" that typically disheartens and discourages. (There are obvious implications here regarding the need for individuation of instruction and curriculum if such continuing experiences of success are to be made available to children of very diverse capacities. Obviously this aim cannot be achieved under conditions of standardized mass instruction.)

- The experiences of success *he* has along the way must be accompanied by some sense of pleasure, not only relating to the success itself, but to the balance of gratification in the process, as against the pains he has endured and the costs he has paid. Some positive and favorable balance of "pleasure"—hopefully containing a healthy dose of genuine fun—along within the pleasures from the sense of growth and mastery, must be made available and experienced *by him.*

- As he nears the "end" in view, it must become apparent to *him* that his estimates of the probable balance of cost and gratification throughout the process were not mistaken and that now, in addition, *he* can prospectively see new horizons of desirable future achievements that are open to him as a result of having ventured and won.

In short, the achievement must have a "point," a "payoff" that *he himself* can see and value.

- There must then ensue for him a developing sense of himself as a worthwhile and competent person, one who can strive and succeed and be rewarded in the process, and be valued by those who have urged him to strive.

At this point, motivation has *tentatively* taken hold and may—with substantial and frequent reinforcement—become more deeply rooted. But it ought to be understood that the motivation so engendered is likely to be *task-specific,* at least at the outset, in the sense that the willingness to risk may attach itself only to very limited targets and may not be generalized to a whole range of tasks—even if they are in the same domain—such as the cognitive, or the athletic or the manual. *Generalized* high motivation comes only as the product of prolonged and diverse experiences of success and gratification over a range of striving-achievement sequences.

It is patently clear that this model of motivation is something far more complex than that which is embodied in the phrase "where there's a will, there's a way." What this model implies instead is that *"where there's a way, there's a will."* That is, will or motivation will develop only when the complex and difficult sequences of striving-achievement have been structured and experienced in the specified way, and only then can we expect "will" or "motivation" to ensue. In short, the will is to be created by the ways to be provided.

If one argues that this is too difficult a formulation and that it would be better to go with simpler notions, one must then ask whether, in fact, simpler notions will work at all. If they will not—as they clearly will not in most instances—then they are not simpler at all. They are *infinitely* more difficult; in fact, they are impossible.

The painful lesson for many traditional educators—one that is probably too painful to learn and to absorb—is that there is no simpler way to motivation than what has just been described.

The motivational model specified above has the additional, potentially great value that it is usable, with modest additions, as a model for integration into moral or value-norms. That is to say, *one learns to value and to abide by norms of conduct in almost precisely the same way as one comes to be motivated to learn cognitive material.* The one substantial difference is that in the integration into a moral code, certain negative restraints or sanctions are probably required to reduce the likelihood of resorting to deviant, inappropriate behavior. This special requirement is due to the continuing presence, in the development of any child, of certain early and persuasive, gratifying experiences with deviant behavior: the experiences of the immediate, direct, unshared and cost-free gratifications. Integrating a child into a desired moral system must, therefore, be able to interfere and countervail against the seductions of such deviant gratifications.

We stress both the correspondence of, and the significant difference between, the dynamics of motivation and of moral integration in order to reveal how the processes of learning and achieving in school have become laden with moral implications that are detrimental to the learning process. I think particularly of two things: (1) the way in which being attentive, and doing one's work and making the expected products is defined in terms of "good" and "bad"; and (2) the way in which learning and school are defined as "work" and hence as "virtuous," and are treated as requirements whose quota must be fulfilled before the child is considered to have "earned" the right to enjoy the slightly sinful "play" or "free" time.

It is because of this view—this moral investment of the learning process—that we find so many educators feeling the need to use "punishment" and negative sanctions of various kinds in order to restrain the child's "natural" propensities to idleness and play. That is, the learning process is treated as a sternly virtuous and morally desirable process, whose attractiveness to the child, however, is considered to be "naturally" low in proportion to the competing seductions of idleness and play. As a result, it is believed that restraining sanctions are required to keep the child focussed on his "work." As a corollary it becomes very difficult for many educators to rise to the conception of making school "fun", and for many parents and other lay citizens to accept this concept. If it is fun, they reason, it can't be very important or worthwhile. Virtue necessarily is painful, according to the stern and dour Calvinist morality under which most of us have been reared.

I submit we shall get nowhere in our effort to reconstruct education in America, and to move toward making it more equal and of higher quality, until we divest differentials in achievement of any moral overtones and until we introduce in an effective way the notion that school and education should be and can be fun, or at least interesting and stimulating.

I do not expect that we shall get very far along this new road in the proximate future. But it seems to me imperative that this perspective be made part of the training of every teacher candidate so that he shall feel impelled—as a basic requirement of the satisfactory discharge of his role as teacher—to find ways in which to make what he teaches attractive and enticing to students. Since so much of modern schooling is anything but attractive and enticing, there is room for vast change and improvement here, but one need not view this as a case of all or none. If, in the next ten years, we find ways in which to add only thirty minutes of genuinely pleasurable and gratifying experiences to the school day of the average child in the United States, we shall have made an enormous contribution to him, to ourselves, and to education in general.

WAYS OF THINKING ABOUT EVALUATION

We turn finally to consider the role of evaluation in education, as it effects the process of learning and of teaching. Evaluation means many things to many people, but the core meaning has to do with some notion of finding out how well an enterprise is going, or how successful an activity has been. It is perfectly rational of course to be concerned with evaluating the process of education—to try to determine whether our schools are doing well or poorly. For we spend a great deal of money and we invest large amounts of psychic and social capital in our schools, and their outcomes are presumably crucial for our national interests, today and tomorrow.

These are all very good reasons, then, why we should be concerned with the evaluative process and about conducting evaluation in such a way as to maximize its value. With that in mind it becomes both evident and imperative that we realize that if evaluation is to be sound at all *it must include not only a determination of the end product of a process but also an understanding and appreciation of what elements and facets of the process have contributed to what aspects of the outcome.* That is, when we evaluate an education venture we want to know not only what has happened to our children but how and why "it" has happened to them, regardless of what the "it" may have been. We want to be sure or, at least, as sure as we can be, that we know what is responsible for whatever success and failure we experience in education, so that we can correct and revise where needed.

Let it now be stated forthrightly that no more than 5 percent of the schools in America—if even that many—have any sound, demonstrable knowledge about the effects or the impact of the various aspects of their educational enterprises and efforts on the students. They know something of what the students have learned, at least insofar as this may be revealed by the final examinations. But they do not know whether the students have learned this much or this little *because* of what the schools have done or *in spite* of what they have done. They do not know how much the books matter as against the teachers, the tests, or the homework. They do not know whether more could have been accomplished in half the time, or four times as much in twice the time. They have no way of knowing whether they have spent too little, too much or just the right amount for what they have produced.

Of course this does not prevent teachers, principals and superintendents from boasting about "their" success with their "better" students. As a corollary, they are almost never hesitant about blaming the "failure" of their "slower" students on the students themselves. There is hardly a school in the country whose principal does not, at some proper ritual moment, declare that "on the balance, taking all things into account, this has been a pretty good year."

The serious exceptions to this generalization have occurred only in the last year or two, and then not from the comments made by principals, but rather, those made by politically motivated and despairing parents of children in ghetto schools who have found it useful and apposite to declare forthrightly that the schools have failed to educate their children. Since the schools cannot prove the contrary, nor can they prove that they have educated the ghetto children as much as they could be educated under the circumstances, we have a continuing political competition between the diametrically opposed ideas about the success and failure of these schools.

Not alone in the interests of political harmony—nor even mainly so—but primarily because education is too important and costly a venture not to be brought under rational scrutiny, it becomes crucial that we begin to develop sounder notions and procedures of evaluation. We must someday shortly learn how to identify what it is we do in the schools that has what effect on our children. We must also be able to sort out the contributions *to the educational outcomes* of their homes, their neighborhoods, their personalities, their teachers, and of books, of fellow students and school climates, and of the other major variables that together describe the effective educational enterprise.

There are numerous efforts currently being made to bring some sense and order into the evaluative process and we should not attempt to prejudge them. But one can say that—to the extent that these efforts rely mainly on the student outcomes and to the extent that they judge *students* as having failed or succeeded in their education—they will contribute nothing to the necessary revamping of evaluative procedures. The fact is undeniable that there are many forces that go into determining how "well" or "poorly" given students learn to perform certain school tasks (assuming these are the educational objectives) and the student himself is only one of these many forces. To attribute the totality of—or the main burden of—success or failure at learning to the student himself is to ignore these numerous other factors. To ignore these when they are evidently relevant and material, is to defeat evaluation from the outset.

Indeed, one may say that from the point of view of power to affect the final outcome, *the student is the least powerful force in the total matrix of forces that shape his school performance.* He has little or nothing to say about what he will be required to learn; nor about how he will be required to demonstrate that he has learned it. Nor does he have much power in determining what facilitations or obstacles will be provided in his home and in his peer groups; and he cannot control the climate of support or discouragement of learning that permeates his school. To blame him for his "failures" or to credit him for his "successes" is therefore markedly and decisively irrational.

Yet this is precisely what we do today in most American schools, and we embody this attitude, and ritualize it and sanctify it in our grading procedures. The outcome of a month's complex educational effort and interaction among various forces is measured by what the student "produces" on (for example) a forty-two minute examination, and the student is then graded as having failed or succeeded, plainly or with distinction. It is he then who is required by the logic of this process to revise *his* "ways," *his* "study habits" *his* "day-dreaming," or whatever. Almost never is the teacher or the curriculum or the principal or the peer group or the family called to account for the educational performance of the student.

We then magnify this process by administering "national achievement tests" to a supposed national sample of schools, and we establish "norms" of desirable achievement, under whose terms and by whose logic fifty percent of the schools must inescapably fall below the median and hence be deemed failures.

Hardly anyone, anywhere, anytime today asks seriously how much any given child might have been expected to learn under the circumstances of his life. And hardly anyone, anywhere, anytime asks how much a given school might have been expected to have all its children achieve, given its input. Since no one can properly say how much output any school *should* achieve—except against some measure of input—our national norms and medians are useless and destructive. They are taken mistakenly for standards, which they are not. And they are used mistakenly and harmfully as sources either of boastful pride or defensive shame.

CONSEQUENCES OF EVALUATION

The consequences of our grading system and our system of rating of schools are manifold and insidious. Only some of them can be singled out for brief consideration here.

The first has to do with the consequences for motivation and developmental growth, as discussed earlier. *Grading means labeling.* It means sorting out sheep from goats. It means setting rigid minds and stereotypical notions to work. It means putting fixed ceilings on children. It means treating them as closed bundles of fixed capacities. All these are the antitheses of what is required for motivation, on the one hand, and for the chance continuously to grow in one's ability, on the other. We have already indicated what these imply. It need only be added that there is great and deep danger here to a democratic society and school system. For if we continue to apply a common standard of expectation and invidious grading to children of diverse abilities, and if we identify those who "learn less" as failures, we guarantee their educational degradation, and in turn their rejection of education and of the society through whose schools they have been made objects of publicly ritualized degradation and dishonor.

More than that, we lose such potential as they might have and we thus contribute to the predictable reduction in the possibilities of national growth that might otherwise be enhanced by treating our children as open possibilities—all of whose achievements are to be equally valued regardless of the level of productivity. Let those who believe to the contrary offer one sound justification for punishing and degrading a child for doing only as much as he can do, just because it happens to be less than some other child is capable of doing. Not even the most urgent appeal to "national urgencies" could justify such a procedure. But this is precisely what we do innumerable times a year, in our thousands upon thousands of classrooms, to our millions upon millions of "less talented" children.

There are also drastic implications here for the preparation of teachers. For if they are socialized into the evaluation and grading process as it currently exists they will, thereby, contribute not only to the miseducation and distortion of their students, but they will guarantee the continuity of an educational system that forces them in a few short years to abandon—even if only in despair—every one of the basic principles of educational philosophy and child development that they may have learned in their teacher-training institutions. They become, then, martinets performing educational type chores, but not engaged in education in any real sense. They force themselves into periodic crises at "marking period" times, by having to make innumerable meaningless decisions about how to add up unreliable and unvalidated tests and exercises into some unjustifiable summary score, to which they then attach some badge of honor or dishonor in the form of A, B, C, etc. They also fall prey to the unbelieveable but wide-spread practice of having the so-called "better" teachers assigned to the so-called "brighter" or "faster" students, so that most of the teachers themselves inherit the degradation visited upon their students.

Moreover, teachers make it nearly impossible for themselves to learn and grow so long as they participate in the current systems of evaluation. For, they get no feedback whatsoever that might be of any help in their search for improvement and development. Instead, it is the children who are blamed for failure or credited with success, and the teacher has no way of knowing whether he or she is in the least bit responsible for the children's success or failures or whether they occurred in spite of everything she has done in the classroom. The teacher cannot learn about herself, her teaching, her style and her curriculum unless she submits these to careful scrutiny—unless, in short, in the evaluation process, she asks how much and in what way she and the things she controls contributed to the final outcome.

Evaluation, then, is in desperate need of reconceptualization and reconstruction. We *do* want to know how well children are learning things we consider desirable for them to learn; and we *do* want to know what features of the educational matrix are contributing to these learning outcomes and in what ways. But we cannot learn these things unless we submit them to scrutiny and inquiry and unless we are prepared for the great possibility that it is we—the agents of the schools, our curricular offerings, and our styles and approaches, in interaction with the child—who determine the outcomes. Teaching will continue to be deadly and joyless and despairful for many so long as we continue to evaluate learning the way we do.

Finally, if we are to give the kind of meaning to "evaluation" that we profess we should, we must make our evaluation efforts serve not only to inform us how well or poorly we are doing what we are doing and why, but also whether what we are striving to accomplish is worthwhile and whether our intentions are broad enough or too restricted. I refer to the fact that evaluation is impossible without a prior statement in clear terms of the goals of our efforts. Our goals must be stated in such terms that their achievement is capable of being measured—not simply guessed at.

Where, then, one may ask, is the evaluation of that range of goals that most American schools profess to desire? The goals of citizenship; of the capacity to live comfortably with differences; of the development of sensitivity and sensibility to the best products of our culture; of the acquisition of a sound and healthy self-image; of the development of a creative imagination; and of learning how to think critically? Where is the evaluation of these goals of education? What grading system, what courses, what curriculum pays any explicit attention to these? How long shall we as a society claim they are among our educational intentions but also continue to spend little time, less money and even less evaluation upon their achievement?

Only if we keep asking what it is we are evaluating will we keep reminding ourselves that our actual evaluation and educational efforts, in the vast majority of cases today, are confined to certain narrow and restricted spheres of some cognitive skills. Perhaps, when we have come to realize this disgraceful disparity between what we profess and what we do, we may then come to be more willing than most of us now seem to be, to look at ourselves critically and with an eye toward real change.

Hopefully, our teachers of tomorrow will be prepared to become the agents of this change, by helping them in every way possible in our training institutions to ask—and to keep asking—the tough and the embarrassing questions about goals and outcomes. They will surely do this, more and more, as they come to think reflectively about the new meanings of ability, motivation and evaluation.

SOME IMPLICATIONS FOR THE PREPARATION OF EDUCATORS

If these basic changes in ways of thinking about ability, motivation and evaluation are to be made, some drastic revision will have to occur in the preparation of educators including teachers, administrators, and school boards and related parent groups, and in the ways they define the schools and their roles in the educational enterprise.

Above all, teachers must be taught that in any learning situation in which they are the adult and powerful agents in the transaction, they must continuously ask themselves in what ways they are making it possible or impossible or difficult or easy for the child to become motivated to take on tasks and to achieve whatever is reasonable to expect him to achieve at that moment.

Training in self-consciousness and self-awareness; in the capacity to absorb criticism without a fear of loss of esteem or worthiness; in a sensitivity to how they are being perceived by their students and in caring how they are perceived—these are some of the new facets of teacher preparation that are required.

Moreover, the distinction between subject matter and methods, now formalized in most teacher training institutions, must be abolished. No teacher can be said to know her subject matter until she also knows how to teach it to others. This is as true for mathematical formulae as it is for social science propositions. Persons other than teachers may be said to understand and know things without being able to communicate them to others. But this must not be said of teachers. It is, therefore, decisively wrong and injurious to assume that teachers who pass courses in so-called "subject matters" are then prepared to go on to learn how to teach these subject matters to young students. *At every point in the education of teachers, effective methods of teaching the subject matter must become a crucial part of learning the subject matter.* This means that the traditional separation of content courses from methods courses is without any further value. Such a change will bring no loss, since this distinction has only had negative value in the past in any event.

A final implication for the training of teachers has to do with what competences each ought to be required to demonstrate continuously. In addition to so-called subjects and methods of teaching (conceived as suggested above) no teacher, at any level, can be said to be competent unless he or she is very well trained in child growth and development, including psychological and sociological features and factors that affect that growth and development. Teachers must understand how children grow and develop; how uneven their interests and motives may be from day to day; how varyingly responsive they may be to different kinds of educational experiences; how needy all of them are of a sense of their own powers and value; how dependent they are on the assurances of concern and affection for them by the teachers and other adult agents in their learning environment. Only when these dimensions of child development are fully appreciated and capable of being incorporated into practices in the school by the teacher can he be said to be qualified to teach. Among other things implied here is the need for actual classroom experience from the very first moment of teacher training—with continuous feed-back to ongoing seminars with fellow teacher-trainees, under skillful guidance, during which problems of growth and development and motivation and how to teach more effectively are subject to constant discussion and evaluation.

There are here also some important implications for educators other than teachers—especially principals, supervisors and school boards. The most obvious is that the teachers must have ample physical and psychological space and time in which to conduct their educational transactions. Crowded classrooms, harried schedules, twenty-five hours of contact classes a week, little or no time for educational refreshment and refurbishment—these are destructive of any efforts at implementing quality and equality in education. Principals must not specially honor one set of teachers over another for the "distinguished work" of a minority of their brightest students. *The teacher who moves "slow learners" as much as they can be moved must be valued and honored as highly and openly and richly as the teacher who is in charge of advanced placement groups.* The school officials, from principal to school board, must in short create and sustain an environment that makes good teaching possible. Otherwise, there can be no conceivable reasonable basis for expecting good teaching. Skimpiness in budgets, stinginess with materials and extra-curricular experiences, pressure toward "honor roll" types of classes—these will no longer do.

Examples of the kinds of change that seem indispensable include the reduction in the number of contact hours per week for each teacher; the elimination of non-teaching housekeeping and supervisory chores; and the provision of at least an afternoon if not a day a week of release from all formal duties for the purpose of reading, thinking and discussing school problems. These changes require mostly good will, money and a concern for the quality of education. Without them, no teacher can reasonably be expected to do more than a routine job of drilling her classes in a set of meaningless and dull subject matters.

That so many teachers do so much more is testimony only to the extraordinary and surprising dedication of teachers to their calling and their mission. We have been lucky in past years in the amount of such dedication that has been forthcoming in spite of so many discouraging actions and inactions by school officials and communities. We had better not count on this luck much longer.

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SCHOOLS NEEDED FOR THE SEVENTIES*

Ralph W. Tyler, Director Emeritus, Center for Advanced Study in the Behavioral Sciences, Stanford, Calif.

PRIMARY EDUCATION FOR ALL CHILDREN

More than ever before, citizenship in our society requires education for adequate understanding of government and public problems and also for parenthood, constructive family life, personal and community health, employment and individual development. Every child needs education, and the schools face a new task, that of reaching the children who would have dropped out in an earlier period.

According to the best estimates from available data, approximately one-fifth of the children of the United States do not attain the level of literacy required for available employment; a similar number may not gain the understanding needed for citizenship and satisfying personal lives. In rural and urban slum areas, 40 to 60 per cent of the children in the sixth grade perform at second-grade level or below on achievement tests. The educationally deprived are heavily concentrated among the poor, Negroes, Mexican-Americans, Puerto Ricans, and American Indians. The schools have failed to reach the disadvantaged. Two-thirds are malnourished, three-fourths have one or more significant health problems, they have no place to study at home, and nearly half have no real family life. Lack of education among these groups is not a new phenomenon, but it is much more serious now than a few decades ago and is not likely to be balanced by other kinds of opportunities for learning, for employment, and for enhanced personal satisfaction. For most of these children and youth, education is the only means available for advancement, and they do not get it.

Our failure to educate most of these children is not due primarily to their inherent inadequacies, but rather to the inappropriateness of the typical school program. Among the majority of American children, the school and its activities are an integral part of the learning begun at home, reinforced and developed by teachers and schoolmates, and fostered by opportunities to apply what they learn in out-of-school situations. For example, for the majority of children learning to read is an extension of language development begun in the home, with much conversation in standard dialect accompanied by the parents' reading aloud to them. The school provides a natural continuation of these language activities and, as the child learns to read, there are books and magazines at home on which to practice. Usually, too, there are parents and friends with whom to discuss what is read.

In contrast, most of the children who do not attain an education find the school alien to earlier experiences and a source of failure and rejection. Many children from minority groups have not had extensive experience with American standard dialect, they have not had parents read to them, they have not seen family or friends devoting major attention to reading. They find the school work in reading foreign to their home experience and frequently fail to carry on the tasks expected. In this way they lose the zest of learning and have an increasing

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*This statement is excerpted from the chapter by the same author entitled "Investing in Better Schools" in the volume, *Agenda for the Nation*, Kermit Gordon, editor, The Brookings Institution, Washington, D.C., 1968.

sense of failure while in school. As they lose interest and confidence in the early months, they fall behind the majority of children more and more, so that they finish school or drop out without reaching a level of education on which to base a constructive life.

The Congress recognized the imperative need for educating disadvantaged children by boldly and responsibly offering categorical aid to schools having a concentration of children from homes of poverty. Unfortunately, a majority of the efforts of the schools to meet the challenge have not been highly effective. Comparing these ineffective programs with some of the more successful ones suggests some possible explanations.

First, the added resources are grossly inadequate. By the time severely disadvantaged children enter elementary school, their experience with language and with systematic learning has been so limited that a major reorgnization of attitudes and habits is essential to enable them to perceive the meaning and significance of school learning and to gain the confidence required to engage actively in it. For example, a majority of mothers encourage their children as they enter school for the first time to show what they can do in learning to read and to deal with numbers, whereas the typical advice given by the mother of a disadvantaged child is: "Don't get into trouble! Don't do anything that would make the teacher mad!" Hence the child avoids active involvement in learning, trying to be as passive as a six-year-old youngster can be. For him to acquire positive attitudes toward the work of the school, new language habits, and successful experience in active intellectual learning demands major changes in school programs and practices. These cannot be effected by expenditures of only 10 to 15 percent more than the ordinary school expenditures. The Head Start programs in the larger cities are costing about $1,000 per year per pupil for half-day sessions. This expenditure provides people to read to children, to converse with them, to stimulate their curiosity, to assist with health and nutrition, and so on. The Neighborhood Youth Corps programs are much more expensive because, as the uneducated become older, their problems are more difficult to attack.

In the second place, most of the efforts to help the disadvantaged have focused on children from six to seventeen years of age. Typically, children who are seriously deprived in their intellectual and emotional experiences in the first three or four years of life keep falling farther and farther behind the majority of their age mates as they progress through school. What seems to be required is the early provision for deprived children of the kind of environment a good home and a good community offer its children. The Head Start program is a small step in the application of this principle, but it does not go far enough.

Third is the failure to make necessary major modifications of the school setting, program, and the kinds of personnel employed. The pattern characteristic of most schools, in which one teacher plans and conducts all the activities of the classroom, is not effective with children for whom the school is the major if not the sole systematic educational agency. Most previous efforts have made only minor modifications, although experiments indicate the tremendous reorganization required in the tasks, the school setting, and the personnel in order to furnish educational environments roughly paralleling those of the homes and neighborhoods of the majority of American children. The children must perceive the tasks as relevant to things that are important in their lives. For example, the oral language development must help the normal communication involved in living and playing and doing their part of the work at home. The formal school setting should be changed to include activities in the school, the playground, the home, and the neighborhood in which the children can practice oral language. The school personnel should include mothers and other neighborhood persons who help guarantee that the school is related to the rest of the child's life. In many cases, other children, older and younger, can be used to supply each child with an individual helper. Rather than set expectations of a uniform rate of achievement for all children, the program should encourage each child to master at his own rate the particular knowledge or skill involved in his work so that he gains the basis for further learning and confidence in himself.

Enough experience is now available to justify supporting some ways of attacking this problem as likely to be successful and withholding support from those unlikely to produce significant results. The local school or even the State cannot effectively develop an educational program and secure the financial resources to mount it. Most disadvantaged children are found in areas where the resources are most limited—city slums, Appalachia, the poorest rural counties, the poor sections of the urban fringe—and where there are limitations in the new ideas.

For a nation-wide program that promises success within a dozen years or so there will be required large-scale support by the Federal government for local developments that are either designed by a central group or submitted for approval, centrally. The cost for a comprehensive program directed to the 20 percent of children and youth who are not now obtaining an education would be at least $6.5 billion annually. This includes $1.4 billion for children aged three, four, and five who have not usually gone to school, allowing $600 per year for each of the 2.4 million. It also includes $5.1 billion supplementary educational support for the 10.2 million disadvantaged children already in school, at an average of $500 per year added to the amount now spent. Since the success of the program for the very young would result in decreasing problems as they progressed through the schools, eventually the need for supplementary support of older children would be a small fraction of the support needed in the first few years.

New Tasks for the High School

Our society today needs a much higher percentage of its youth educated beyond the elementary school. As the demand for unskilled and semiskilled labor has sharply diminished, there are increasing employment opportunities that require at least a high school education—health services, education, recreation, social services, science, engineering, administration, accounting. Such an education also contributes to constructive citizenship and to competence in other areas of living.

We currently fail to educate approximately one-third of the youth enrolled in high school. This is not due primarily to the inadequacies of the students but to the inappropriateness of the program to supply them with the kind of learning required. They are concerned with becoming independent adults, getting jobs, marrying, gaining status with their peers, and helping to solve the ills of the world. They perceive little or no connection between the educational content of the school and their own concerns. "What has algebra to do with me?" they ask. "Why should I try to remember the chief battles of the Revolutionary War?" Even the high school science laboratory appears to be a place for following the directions of the laboratory manual to see if they can obtain the results reported in the textbook.

Because they do not see the relevance of the high school to their present and future lives, they do not become actively involved in the learning tasks assigned. They turn their attention to other things such as athletics, social activities, artificial stimulants, or they become quiescent, enduring the school routine until they can drop out.

A main factor interfering with the solution of this problem is the tradition that the high school should be an adolescent island outside the major currents of adult life. Modern society has increasingly isolated adolescents from the adult world. Yet, this is the time of life in which young people are looking forward to being independent adults; they need opportunities to work with adults, to learn adult skills and practices, and to feel that they are becoming mature and independent. Hence, the restrictions on youth employment, the limited opportunities to learn occupational skills at home, the segregation of civic and social activities by age groupings all add to the difficulty of the adolescent and increase his anxiety about attaining adult status and competence. The secondary school should help to bridge this gap.

There are practices that increase the effectiveness of the high school in giving a functional education to more young people. Primarily, they involve developing a close, active relation, not simply a formal one, between the school and the responsible adult community, so that the student will find questions and problems outside the school that can be attacked by what he learns in school. The emphasis is upon learning what is relevant to his life, not upon grades, credits, and other artificial symbols.

What is required is a major effort to furnish high school students with significant adult activities—job programs, community service corps experience, work in health centers, apprentice experience in research and development, and in staff studies conducted by public agencies. It will be necessary to redesign the high school in order to open it to the community and to utilize many kinds of persons in education. The school will need to serve a wider range of ages and allow students to vary the amount of time devoted to studies. To supply a substitute for grades and credits as qualification for employment opportunities, a certification system will need to be developed to validate the student's competence in various major areas.

This proposal may be misunderstood. It uses work and other areas of life as a laboratory in which youths find real problems and difficulties that require learning and in which they can use and sharpen what they are learning. It does not substitute learning on the job for the deeper insights and the knowledge and skills that scholars have developed. The teacher, the books, other materials of the school, and the intellectual resources of the community are to be employed by the student as he works on the problems of his job and carries through projects on which he is engaged. When he is actually doing work that he finds significant, he can see for himself with the aid of those who know the field that many kinds of learning are helpful and even necessary. Coordinators are needed to connect education with the world of work, and teachers need to learn to select the content of school subjects and assist students to use it in connection with the activities in which they are engaged.

The student is concerned with civic and social service activities as well as with gainful employment. In these areas he will meet problems that involve values, ethics, aesthetics, public policy, in fact, the many facets of real life. The opportunity is thus provided for the student to comprehend the perennial areas of educational concern—social-civic understanding and commitment, health, personal integrity, and the arts, as well as the skills of occupational competence.

To provide for the varied interests, abilities, and career plans of students, corresponding variations can be made in the selection of school assignments related to the job, and in the division of the student's time. For example, John Brown, a well-read student, who has been very successful in most of his previous school work and plans to enter a university, might work 20 hours a week for one year in an industrial laboratory and another year in a community health center. His school studies should furnish a basis for finding other interests to be pursued in more intensive study, perhaps helping him to select a technical institute for further occupational preparation.

The proposal assumes an extension of the hours per day and weeks per year devoted to high school education. The present five- or six-hour day, even in concentrated vocational laboratories, is little enough to satisfy the level of skill now required for job entry. With the proposed variety of activities in and out of school, the student should be able to work 11 months per year without undue weariness. Since he would receive pay appropriate to the service rendered, summer vacation jobs would not be important.

Some of the major features of this proposal are currently used in imaginative programs of vocational-technical education in some high schools. Unfortunately, even in these cases the benefits are limited to the few students enrolled in these programs. But they demonstrate the feasibility of work programs, wider adult involvement in the education of youth, and closer relation between learning in school and activities outside. They also demonstrate ways in which Federal funds may be used to furnish added support for constructive educational improvements.

Parts of the program have been employed in various places and subjected to impartial evaluation. The kind of education described here has been shown to arouse greater interest and effort in many students than classroom study alone, to increase student understanding of the subjects studied, and to develop maturity of responsibility and judgment. Community service corps experience such as that developed by the Friends Service Committee has been found to arouse in many students greater motivation to learn and to develop social skills, social responsibility, and maturity of judgment. Communities have constructed the Neighborhood Youth Corps program to serve a similar purpose with young people from backgrounds of poverty and limited opportunity. The involvement of a broad range of people in the educational activities of youth has proved helpful, as has the provision of a variety of patterns to include, in addition to full-time employment, part-time school attendance while holding full-time or part-time jobs, and enrollment in high school, full time or part time, after a period of work, military service, or other activity. This varied pattern of experience and competence can be utilized constructively in an institution open to the community, whereas it is likely to be a handicap to a school operating in isolation, with study confined to textbooks and related materials.

To develop this program new institutional arrangements must be made and personnel trained. For the establishment of cooperative work-study education, surveys of job opportunities in each community are necessary. Coordinators need to be trained to work out with employers the outline of job experiences and their relation to the educational resources of the school. Their primary concern is the utilization of job experience to enhance the student's development. The high school curriculum, itself, will need rebuilding to make it relevant to the problems encountered by students in their work, not only in business and industry, but also in public agencies and nonprofit institutions. In many cases, a community service corps will need to be established to provide young people with opportunities for social service.

It is not easy to shift the purposes and practices of massive social institutions like our schools so that they can effectively accomplish new tasks, but it must be done. The nation's need of education has risen and expanded greatly, so that conditions that were tolerable and seemed normal a generation ago must be improved or our development and stability will cease and the nation's very existence will be seriously threatened.

ROUSSEAU OR VOLTAIRE IN THE PRESCHOOL?

Ernest D. Washington, Assistant Professor of Educational Psychology, Rutgers—The State University, New Brunswick, N.J.

The most critical educational need is not money, books, buildings, or teachers. It is planning. The need is most desperate in urban areas where purposeful educational systems are nonexistent. What we have in our cities are patch-work creations that are the remnants of educational systems, which did function in past decades. Let us set as our task for the seventies then the planning of viable, realistic educational systems for urban areas.

If we are to plan for public school education in the seventies, the past offers few guidelines as to where we ought to be going. Public schools now seem to be systems without a clear purpose. Their most singular characteristic has been its physical growth. Yet when one passes from counting children, teachers, books, and buildings, the growth seems chaotic, rather cancerous and without purpose. Schools have been growing in number in our cities and that very growth seems a further cause for the spreading paralysis in our cities. Put another way, our schools seem to be sicker than our cities and the schools seem to be the catalytic agent that brings on the sickness.

Education can be considered an organization that has been assigned specific functions by our society. Let us simplify matters and argue that the schools have two major but separate tasks: imparting information and socializing its students. Certainly these functions overlap to some degree, but for the sake of simplicity we can arbitrarily separate the two. On the first function, there is almost universal agreement that the passing on of technical information is and should be one of the functions of the schools. Even though there is agreement as to this goal, the schools as constituted are far from being able to reach this goal. The second major function involves socializing students. On the socializing function of schools, there is controversy as to the legitimacy of the goal and no clear means to reach it.

Public education as an institution has an almost unanimous mandate to pass on technical information to its clients. It is evident that to have a mandate is one thing and to carry it out is quite another. Perhaps the first impediment is simply the very vagueness of "this" charge. The imprecision of its task has finally been taken to heart by educators and we are now involved in a first attempt at National Assessment, administered by the Education Commission of the States. The intent of the assessment is to provide measures of what is being accomplished in educational programs across the country. After the national assessment, when there is some clear idea about what schools *are* doing, then we can get on with the job of considering what they *ought* to be doing.

The perplexing question of defining goals is not as elusive as many would have us believe. Mr. Allen, Commissioner of Education, recently gave us an example of goal setting. He proposed that every child should be taught to read. His definition of reading could be sharpened up a bit and then we would be in an excellent position to begin to come up with schemes to meet this goal. It goes without saying that he will fail miserably in attempting to reach his goal and the failure will in part be due to an inability to plan, implement plans, or both.

This failure is a tragedy because reading is one of those pivotal skills which opens and closes options. Consider that somewhere between 25 and 50 percent of the black children in our cities never get the hang of "meaningful" reading. This is a tragedy because this skill is a major item in the separaton of the educational and occupational haves and have-nots. For the present and future, it is difficult to imagine that large numbers of our citizens cannot become contributing members of our society if they cannot read.

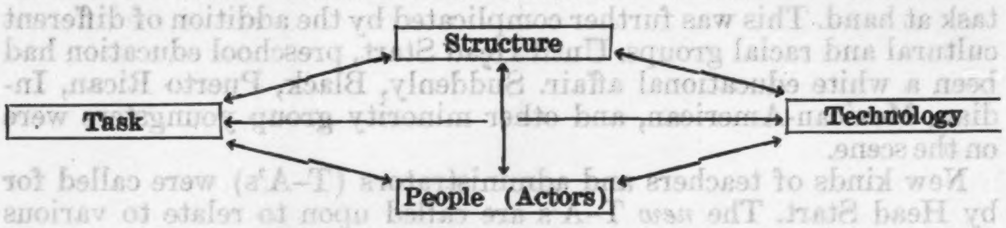
(Note: A week after Commissioner Allen made public his goal that every child should be taught to read, the National Council on Education Professions Development made public a letter in which it reported that the government had just cut back from $13 to $8 million a program which had as one of its major goals the training of reading teachers. The moneys of this program may be restored; nevertheless, there is a message here. It has to do with the sporadic way in which educational programs are planned and funded.)

As a case study of the problems involved in planning for education, let us consider the institution of early childhood education. Some insights into the current state of E.C.E. can be gleaned from its history. The strands of thought that form the basis of early childhood education are many but we will arbitrarily begin with a controversy between Rousseau and Voltaire which seems to have had a very pervasive influence over the field.

By either philosophy or practice, the field seems to have not progressed beyond the thinking of Jean Jacques Rousseau. The key to Rousseau's educational theory was the notion of "naturalism" which means that learning takes place best when the child is free to develop according to his natural impulses. This sort of approach implies a cafeteria-style education and it suggests that the child "naturally" knows and can choose those experiences that will optimize his education. This notion is still extremely popular among preschool practitioners. Those of us who regularly visit nursery schools have seen too many cafeteria-style preschool programs. There are the science, language, play, doll corners, etc., and the child goes about choosing the most appetizing dish.

Perhaps if educators had heeded Voltaire instead of Rousseau, then we might have taken a more rational and scientific approach to our profession. Voltaire viewed education from an empirical point of view, and he looked to science for rational answers to pedagogical questions. That controversy between Voltaire and Rousseau as to the merits of naturalism versus rationalism is still with us in the field of preschool education. We people are still advocating "Let three-year-olds be three, four-year-olds be four, and five-year-olds be five." The "thinking" behind those cliches is the Rousseau notion that there are "natural" educational experiences for young children. The idea of "natural" is extremely difficult to understand and precious little scientific evidence supports the current approaches to the education of young children.

To better understand schools, it is necessary to consider schools as having the characteristics of any organization. A model used by Leavitt (1965) in describing industrial organizations seems to have real applicability to schools. Figure 1 shows the scheme developed by Leavitt that will be used to analyze schools and preschool education in particular.



Actors—refers to people. In this case teachers, administrators, pupils, parents, etc.
Technology—curriculum, television, audio-visual aids, computer-assisted instructions, etc.
Structure—system of communication, authority power (roles).
Task—imparting of knowledges, skills, etc.

FIGURE 1

To understand the current status of early childhood education (E.C.E.), it is necessary to compare it using Leavitt's model with the times before the creation of Head Start and "cultural deprivation." Before Head Start, the *actors* were all middle-class pupils, parents, teachers, and administrators, and they were relatively few in number. Technology was nonexistent with the exception of occasional films and slides. Very little was heard of structured curriculum, television, complex audio-visual aids, computer-assisted instruction, etc.

Pre-Head Start was housed within the structure of private schools which catered to the middle and upper-middle class. There were few problems with communication and role definition because all the adult actors (administrators, teachers, and parents) were in agreement as to the task and goals of the programs. These tasks and goals were defined in terms of aiding the child in his social, emotional, and intellectual development. The critical term in this definition of tasks is "developmental." Because children develop at different rates, it was assumed that these differences in rates made measurement difficult or impossible and thus it was not attempted. Probably the greatest barrier to measurement of the interaction between learning and early development is that so little talent and money have been expended on the task.

Figure 1 indicates that the actors, technology, structure, and task are all interdependent, and it is safe to say that this Pre-Head Start system was in balance. The actors were all of the same class origins; the little technology available was produced by the actors; there was agreement as to the structure and task. Finally, there was very little agitation to introduce new actors, technology, or structures, or better to define and measure its tasks and goals.

Head Start brought profound change to this institutional system. First, the money available called for the training and education of large numbers of new and different actors, designing a new technology for the early years, development of new and alternative structures, and redefining and development of new goals. Paradoxically, this assignment of institutional restructuring was given to the pre-Head Start institutional system.

Specifically, what seems to have been called for by Head Start? First, an entirely new set of actors was called for. The pupils were to be poor. This was a huge change because poor children come to school with fewer and different academic skills and this alters the educational task at hand. This was further complicated by the addition of different cultural and racial groups. Until Head Start, preschool education had been a white educational affair. Suddenly, Black, Puerto Rican, Indian, Mexican-American, and other minority group youngsters were on the scene.

New kinds of teachers and administrators (T–A's) were called for by Head Start. The *new* T–A's are called upon to relate to various cultural and racial groups, and of necessity to know something about the cultural-racial backgrounds of the children and their parents. Knowledge of new curricula and innovations in educational technology should also be a part of the skills of the new T–A. These new technical innovations will be coming from specialists outside of the field and they will require a sophistication not previously required of the T–A. These changes mean that the new T–A is presented with an entirely different cast of actors than the pre-Head Start T–A.

Major technological change has yet to come to early childhood education because the pupils cannot readily use the hardware available for other older children. Young children probably need more direct and concrete reinforocement than older children. Thus, the traditional visual aides such as slides, tape recorders, movies, and television are not much help because these instructional materials do not have feedback mechanisms as a part of their structure. In a few years we are likely to see innovation from two sources: highly structured curriculum directed by teachers and computer-assisted instruction. Both of these modes of instruction involve programmed instruction and feedback mechanisms. These forms of instruction also tend to be produced by experts whose primary field of study is psychology.

The structure of E.C.E. needs radical revision from pre-Head Start days. The revisions require first that there must be continuity in planning between the preschool and elementary school. In the past, preschools operated as an institution apart from the public schools. Necessary changes involve the education of teachers and administrators and the attention to curriculum innovation utilizing a new technology. Both of these are necessary prerequisites for continuity between the preschool and the elementary school. The structure of preschool education must be altered to reflect these necessary changes.

Finally, the goals and directions of E.C.E. must become an integral part of a continuing educational system. Specifying goals may not be as easy as imagined *because* there has been a tendency on the part of the elementary schools to ignore the necessity of setting goals for each part of the elementary system. The setting of directions and priorities may have the catalytic effect of forcing other segments of systems to evaluate and measure their goals.

Comparing the institution of E.C.E. before Head Start with the system that is necessary for today, it is easy to discern why Head Start has been labeled a failure. The pre-Head Start system had neither the structure nor the resources to change its goals to educate the children from poor homes. Rather than change the system of education that has worked so well for middle-class children, the same system has been used again and again with lower-class children. Recent evaluations of Head Start have documented the failure of this approach.

A solution to this problem lies in abolishing preschools and kindergartens as separate educational institutions. They are not producing the necessary educational change. The reason for their failure lies in their history and their current structure. This institution has a set of actors, resources, and structures which prevents change; rather than struggling with trying to change an institution, it is better to simply abandon it and shape its replacement from wholecloth.

What kind of system should replace the old institution of E.C.E.? The system should be a part of the public schools where children can start to school at Age 4. This does not mean that current programs for four-year-olds should be moved from the present preschools into the public schools; rather, the first grade curriculum should be taught to four-year-olds. The current administrative structure of schools could be changed so that elementary schools will handle Grades 1–8 and Ages 4–12.

Are the children ready for a first grade curriculum at Age 4? What does readiness mean? The word, readiness, should refer to subskills that are involved in a particular task and the means available to teach the subskills involved in classroom learning.

Conceived in this way readiness is an empirical question and is answerable by research. This sort of approach specifies problem areas and tasks which can be identified and solved.

This change in curriculum grade placement will probably be made with surprising ease by most children. Teachers, administrators, and educational experts will experience more difficulty than the children and this latter group is the one which is not ready for major change in the curriculum. Where there are areas of the curriculum which are not learned easily by children, modification in grouping, method, task structure, or reinforcement will most likely solve the problem.

What has been argued here is that our total system of education must be re-thought. The place of preschool education in that system must be evaluated in terms of how and what it it can contribute to the education of young children. If it turns out that it can contribute little or nothing, then we ought to abolish it.

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RECOMMENDATIONS FOR LEGISLATION: EDUCATION AND SURVIVAL

Charles Weingartner, Associate Professor of Education, Queens College of the City University of New York, Flushing, N.Y.

At a recent "emergency" meeting (called by a dean in response to a situation resulting from the efforts of a group of students to assume some responsibility for their own education) one of my colleagues, a physicist, admitted that some procedures he was advocating would not be suitable "until circumstances returned to normal."

It struck me as ominous that a young scientist, and a group of his "highly educated" colleagues, could so easily, and blindly, operate on the quaint assumption that the circumstances in which we find ourselves, not only as a college committee on the occasion of that meeting, but as a society and as a civilization, are somehow "temporary," and that if we are just patient, things will return to "normal."

Despite (or, perhaps, because of?) their education, they were incapable of conceiving of the very real possibility that the way things *are*—on campus, in the country, and in the world at large—is "normal," and will, unless we have the wisdom and courage to respond with intelligent imagination, become "normaler."

The Pandora's box of change, opened by technology and accelerated by a mindlessly naive belief in "progress," is the crucial characteristic of the world in which we are attempting to live, and the to-date incomprehensible rate at which change is occurring has rendered virtually all of our traditional institutions (and the conventional thinking which they work to conserve) anachronistic and ineffectual. From the church to the school, they are losing both their constituencies and their functionaries.

Those of a primitive Manichaean cast of mind see this process as being the work of an evil agent bent on consciously destroying traditional institutions. More sophisticated observers hold an Augustinian view that reveals no evil, personified "enemy agent" as responsible, but rather an understanding of the fact that it is "the nature of things" to get out of joint, especially when natural balances are disturbed.

Pogo, revealing an Augustinian perspective, recently said, "We has met the enemy, and they is us."

While this view is relatively new, and most uncongenial to conventional thought, it is increasingly held by those who take the trouble to assess the state of our society and civilization.

H. G. Wells stated it first, and most pungently, in the early stages of the twentieth century technology when he observed that the outlook for mankind is "a race between education and catastrophe."

Developments, especially since World War II, have relentlessly verified the accuracy of Wells' observation.

Restating this same point, John Gardner, formerly Secretary of Health, Education, and Welfare, suggested broad policies for responding to it in his book, *Self-Renewal: The Individual and the Innovative Society.*

The central and most important function of education in our society—if our society is to survive—*must be* that of helping our youth to learn ways in which they as individuals, and therefore they collectively as our society, can engage in a continuous process of self-renewal. If this task does *not* become central for our educational system, it will not make any difference whatever else it does or fails to do. A denial of this statement is merely a denial of reality.

If there is any hope that we will survive—perhaps even to the end of this century—it hinges on our learning a whole new way of thinking, and a whole new set of beliefs. Conventional thought and belief have wrought such havoc with the natural environment that there is now serious question as to whether the earth is capable of functioning as a human life support system by the year 2000.

If new modes of thought and belief are our central hope, then education becomes our first line of defense.

If education is our first line of defense, then there is no more important legislation for the Congress to enact than that which will make education a potent, operational weapon.

The critical need is for Federal legislation that will foster the development of innovations in the form and substance of education, generally along the lines laid out by John Gardner.

The conservation of old beliefs and modes of thought is no longer a significant function for our educational system; the invention of new beliefs and modes of thought is.

Legislation is needed that will provide funds not merely to "permit" educational innovations responsive to the task of enhancing our survival, but rather *vigorously to encourage* such innovations.

Our present educational system is an intellectual Maginot Line. It rests on assumptions that were at best marginal 40 years ago; today they are fatal.

The legislation must provide ways for educational innovation to occur *outside of existing educational systems*, otherwise the "innovations"—even if they are "successful"—will be meaningless. The central problem is not that of doing the old job better, but that of doing an entirely new job, and that requires getting inside of the existing system.

Initial legislation might well address itself to the establishment of a "Rand Corporation" like "think tank"—specifically for the purpose of inventing alternatives to the existing, conventional form and substance of education.

This organization might then, in turn, suggest further legislation to enable the operation of specific alternatives, much as Rand now makes recommendations for "weapon-systems" that are converted into R and D funds by the Congress to enable the development of alternatives to existing obsolete systems.

Our educational system is as obsolete in relation to the threats to our survival that a rapidly changing environment has produced as a weapons system that consists primarily of mule-drawn muzzle loading cannons.

Technology has produced an unprecedented world that confronts us with unprecedented threats to our survival.

This imposes unprecedented demands on our educational capabilities. Education *must* respond in unprecedented ways to fulfill unprecedented tasks.

The *only* way this response capability can be achieved is by Federal enabling legislation.

If we do not pass legislation to do this job, it will not make any difference—in the very near future—what legislation we do pass.

WHAT, WHEN, AND WHY: CRITICAL ISSUES FOR ELEMENTARY AND SECONDARY EDUCATION IN THE 1970'S

Nathan Wright, Jr., Professor of Urban Affairs and Chairman, Department of Afro-American Studies, State University of New York, Albany, N.Y.

I. What Is the Problem?

Not long ago I sat in conversation with the wife of one of the nation's leading corporation executives. She explained with a great deal of pride that, since her children were now all in their teens, she was free to serve as a volunteer assistant for several days a week in a central city school.

"I'm pleased with what I'm doing to help the youngsters," she explained. Then she added: "But I am troubled. The more we seem to do, the more persistent the problem seems to get. I can't imagine what is wrong."

I complimented the thoughtful woman on the fine spirit which she had shown and then I reflected her indirect question back to her. "Just what do you feel is the basic problem?" I asked. Her response was that the underlying problem was in the home. "These youngsters must go home everyday to overburdened mothers, many of whom cannot read well, themselves, or perhaps who do not even speak English. The atmosphere is unconducive to learning. I frankly don't know what we can do."

As the conversation proceeded, I was able to ask the gracious volunteer housewife how she felt her work as a teaching assistant in the school related to her own perception that the root of nonlearning in our central city schools was in the home. At this she was saddened. "Don't you think what I'm doing is right?" she asked. I then suggested that it may not be so much a question of right or wrong as one of relative priorities. This led to a lengthy dialogue which should become a major dialogue-in-action throughout the nation over the next decade and more.

My conversationalist raised her hands in evident frustration saying, "But how can we deal with the educational needs of the adults, even though this may be the crux of the problem! It takes so long and it's such a difficult thing to do. You can't make these people learn!"

What seemed most significant at this point to me was that this brilliant young woman who had come from an inheritance of *noblesse oblige* was in many ways representative of responsible America at its very best. Yet in the face of the self-evident, which seemed new or unconventional, she found herself retreating from the clear dictates of her own reasoned judgments.

If adult educational failings actually are at the root of much of the spiraling nonlearning of our elementary and secondary schools, then those of us who are concerned with the development of the nation's human resources must do, in the best way possible, whatever is required to overcome these adult educational failings. To be sure, many questions immediately are raised as to how the task can be done, how much time it will take, what the costs will be, and who will manage such an undertaking. Yet, we should remind ourselves at the outset that it is never the size of the task but the propriety or essential correctness of the task that is our basic consideration. Lesser tasks, ill-conceived, get us either nowhere or more deeply into difficulty. A little progress in dealing with the right problem, however, is always to our gain.

We perhaps also need to remind ourselves that America in the century before us must become once more a pioneering nation. It must seek to conquer new frontiers not so much in space but in the area of human development. This is the most important frontier which may challenge the imagination and ingenuity of man. The test as to what kind of nation we are to be lies precisely in the manner in which we face this one overarching concern. If we meet the challenge head-on, giving it the best that we have to give, it will signify our determination to continue in the pioneering tradition upon which the past greatness of the nation has rested. Our retreat from the task of pushing forward the frontiers of human growth into the capacity and opportunity for fulfillment for all of our citizens will diminish the life of the nation and will guarantee that in the days ahead we as a people will elude greatness and will become far less than we might be.

In the nineteenth century, universal public education, together with the college related to immediate life concerns, represented the nation's great educational achievements. It took tremendous effort, in the face of conventional attitudes favoring education for the elite, to get universal education into a work-oriented nation's ongoing pattern of life. Nor was it an easy task to raise the agricultural and mechanical pursuits to a level of perceived worthiness to be a part of the collegiate curriculum. Yet, the needs of human life and the press of the nation's technological progress decreed that these unprecedented adjustments be made. In this way, the land grant "farmer's colleges" became, beginning slightly more than a century ago, the backbone of the public system of higher education throughout the nation.

Today new occasions call equally for the recognition of new duties in the field of education. Never has any nation put more resources into its public education enterprise. Perhaps never also have so few returns been associated with so much investment. Notes from a Presidential Task Force on Urban Education several years ago suggest that no business corporation could continue in operation with an estimated below-standard production rate of from 40 to 60 percent. Yet these figures reflect the unmet needs, which show no sustained signs of diminishing, in our public elementary and secondary schools.

II. Where Do We Begin?

One of the major difficulties which we face in any approach to our educational problems today is that our public school teachers and administrators tend to claim, in an inappropriately exclusivistic way, that they are *the* responsible educators in our society. On the contrary, society as a whole is the educator of its citizens. By claiming the well-nigh exclusive right to educate, public school teachers and administrators are implicitly claiming full or major responsibility for the nation's failures in its educational enterprise. This is gross on its face. Our teachers and administrators make the most valiant efforts in many ways.

Once our elementary and secondary teachers and administrators recognize that they are not the solely responsible agents for elementary and secondary educational success, for example, it may mean that a significant breakthrough is possible in dealing with the perilously mounting problem of nonlearning in the public schools. The unwillingness to meet squarely the adult deficiency aspect of elementary and secondary school failures has created an impasse which we have sought to deal with by circumvention. We shall continue this unprofitable process so long as the public as a whole does not see itself as educator with our public school teachers and administrators as specialized servants to deal with specific aspects of the education of our citizens. The public, itself, with the aid of its specialists, must give definition to its educational tasks and the public, itself, must muster and utilize the proper resources to meet every aspect of its total educational task.

We shall continue to raise our hands in frustration, much as the gracious school volunteer housewife, so long as we see elementary or secondary education as the primary domain of the teachers and administrators who work presently in these levels of public education. Clearly, also, these problems call for resources which are beyond the specialized areas of concern of those who man our elementary and secondary schools. Should these educators be blamed for the tendency to failure which is generated from without? Should these educators alter the definition of their tasks and become social workers, social planners, educators of adults, and social therapists of one kind or another?

With the help of, and possibly with the initiative of, our elementary and secondary school teachers and administrators, we must first isolate the influences upon our schools which negate or lessen the effects of good teaching and administration within the schools. Perhaps a major resource in the same regard would be the many able volunteers who now assist in tasks within the schools which are essentially rooted in problems outside the schools.

The task of reassessment is primary. In how many of our schools has a realistic or workable listing been made (a) of the specific problems which are faced in the learning process in the immediate community, together with (b) an assessment of their causes and (c) an appropriate allocation or designation of specific agency or institutional responsibility? Unless such an assessment has been made within each district and school, and then perhaps personalized in some degree for each pupil, the task of realistic assessment—laying the basis for a reasonable semblance of efficiency of operation—cannot be said to have been accomplished within our schools.

We must begin, then, with the task of definition or reassessment. This is tremendously important for the present and the future in that the clearest constant facing us for the next half century and more will be the constant of rapidly accelerating change, itself. When situations change, as they will from day to day almost in the period before us, then the problems related to these situations change and take on new dimensions and new meaning. Hence, resources brought to bear yesterday—or even their tremendous increase—may not be appropriate for today or tomorrow. An essential mistake thus is often made in our feeling that "all that we need is more resources." Granted that more resources *may* be needed. Yet, the primary need is not for more resources but for the specific resources which are consonant with the currently proper definition of our tasks. Indeed, in many instances, less resources rather than more may be called for.

We stress here the concern for ongoing reassessment and redefinition because this will come to take precedence over administration in the days ahead. We administer according to a definition of a task. Good administrators and other teaching specialists or technicians may or may not be good planners. For this reason, the public, in whose interests our schools function, must build into the educational process adequate mechanisms for ongoing assessment and definition.

It should be clear that such mechanisms cannot supersede or be antagonistic to present vehicles or agents within the educational enterprise. What is called for is a grouping and supplementing of resources so that coordinated efforts at reassessment may involve all elements of the educational enterprise. This would include those whom we now see as educational specialists along with representatives of the home and the community's other broadly-defined civic and social resources.

In my book, *Black Power and Urban Unrest: Creative Possibilities* (Hawthorn, 1967), in a chapter entitled "The Public Education Battleground," I have developed a rudimentary model for such coordinated involvement in the urgent task of reassessment. School districts, along with the Federal government, should immediately place in the highest category of priority the need to develop adequate approaches to the redefinition of tasks. Able personnel who are equipped to give leadership in this task should be employed at all levels of education. Such personnel would not be so much planners, themselves, as enablers who saw themselves as facilitators of others who have ongoing responsibilities in meeting with more efficiency and propriety the tasks which they must face from day to day.

III. THE QUESTION OF PURPOSE

Implicit in the dialogue earlier with the thoughtful school volunteer was the question, why? Not only is there the question of why am I assisting in the work of the elementary schools but also of why or to what end are the elementary and secondary schools functioning. The two questions are related in that one answer may suffice for both.

In a democracy all education is for the fullest possible development of all of the society's *human resources*. In other societies this may not be so. We must get straight on our goals or overall purpose, if we are to achieve efficiency in the educational tasks facing our elementary and secondary schools in the decade and more ahead.

What, then, does education for human fulfillment entail?

1. *A Worthy Estimate of Human Life.*—All of us are products of the age of which we are a part. An era in which a static division of labor by social classes prevails will predispose us to look upon life through tinted glasses which reflect a class valuation of human life. In a similar vein, in an era in which black men are struggling to define themselves, we all tend to develop an uncertain view of the place, role, or worth of black men. These circumstances are a part of the givenness of human life.

In the face of these given circumstances we need to do at least several things. We need to be aware as much as we can of our own cultural or historical conditioning so that we can compensate for or correct our own inherited biases from which none of us can fully escape. We need also to recognize that a true democracy calls for a new definition of the term, elite. We must educate for excellence and we must see the term, elite, as signifying "that which has the possibility of excellence in every man."

In this sense, each human life must be, on the one hand, extricated from its social environment and seen for its intrinsic possibilities. On the other hand, it must be seen in the midst of its inherited or assigned social place, to assess both the difficulties and assets which accompany the latent talent in each person in our society.

2. *The Determination To Succeed.*—The throwing up of our hands in the face of seeming difficulties in the educational process reflects, albeit unconsciously, both a lack of faith in our ability to succeed and a lack of confidence in the possibilities of democracy, itself.

The ancient Greeks, who gave birth to the democratic ideal, saw democracy, of practical necessity, in a cosmic or universial framework. Thus, the philosopher-teacher-citizen, Aristotle, could write, reflecting the Greek-conceived democratic idealism: "What a thing *will be*, that *it is*, whether a horse or a man."

The Greeks knew what we must come to know, if we are to achieve and sustain our democratic ideals. They recognized that every life must be seen not simply for what it is but primarily for what it might yet become. They recognized that each life must be dealt with *in the present* in terms of its ultimate or final possibilities.

In terms of race and economic class, for example, which represent the most troublesome thorns in the nation's schools today, our young people must be seen and dealt with in terms of what their basic talents and fondest hopes decree. The talents must be more fully assessed and the fires of hope must be fueled to the fullest. Then there must be the determination of each teacher and administrator to undergird and fulfill the nation's future by assuring the fullest development of its human resources as reflected in every precious human life.

A type of religious idealism is thus called for in the nation. In this sense, our educational crisis is one of values. "Why are we here?" So teachers, administrators, and all who are involved in the educational process must ask. If it is for the nation's fulfillment, then each citizen, whether younger or older, will be seen and dealt with in terms of what each life might yet become for its own fulfillment and for the greater gain and glory of the nation as a whole.

3. *An Extended View Of Education.*—We talk a great deal these days about education for all from the cradle to the grave. Yet, more than 50 percent of the white population is excluded effectively from the continuing educational retraining prescribed as necessary for life and livelihood in the several decades ahead. With black people the situation proportionately is 10 times worse. Only about 5 percent of our post-18-year-old black population engages effectively in the nation's continuing education enterprise.

It is in continuing educational agencies that our parents must be rehabilitated in order to deal with much of the problem of nonlearning of their own children who are in the elementary and secondary schools.

Will this take a long time? No. The instant that parents are reinvolved in learning, the atmosphere of the home (sometimes presently without books) will have changed from negativism or indifference toward learning to one of at least involvement. The young people from such homes will not be faced with a wholly negative drag upon what has been accomplished in school. Instantaneous results thus would be forthcoming.

How can we get the parents involved? Many of these parents are already on some form of public assistance. A part of the return for such assistance should be some preparation for future self-sufficiency. This need not be cast in a primitive framework. Elsewhere, I have dealt with this issue and the reader who may wish to explore this further is referred to chapter three of my book, "The Creative Use of Black Power." Studies made five years ago, but not followed up programmatically, in the Chicago Public Schools indicate that up to three times the average amount of public assistance may be given under existing legislation to relief recipients who will engage in continuing or higher education.

In this same vein, it should be evident that the public schools must exert great pressure to see that those agencies beyond the public schools whose failure to function reflects adversely upon the public schools begin to function as they ideally should.

4. *Education Related To Our Times.*—A recent New York State report of student unrest pointed to the apparent irrelevance of curriculum or subject matter as a primary cause of student dissatisfaction in our schools.

If we are to educate for national fulfillment, then our students must be prepared to meet the present needs of the nation.

There is perhaps something of major or minor significance wrong with 12 years spent in elementary and secondary education, if an adult with six or seven years of schooling can acquire a high school equivalency diploma—and perhaps also advanced standing in college—in less than one year's time. We repeat learnings again and again. We must re-examine our busy work.

In an age of sports lovers, where are the courses in sports history and in the theory and practice of creative cooperation and competition?

In an age of national and world travel, where are the courses in a cultural appreciation of the various sections of our nation and of the regions of the world which would make our increased meanderings far more worthwhile than they presently are?

In a democratic society where all responsible men and women 18 years of age and older must vote, where are the attractive status-conferring and reward-giving schools which will prepare our citizens to make critical decisions at the polls?

In a white-controlled world, now recognizing its needs to reflect the life, history, and concerns of all of our citizens, what programs do we have for equity as well as for the integration of the best from all American sub-cultures into our education processes?

If students fail in the early years of education, what vehicles do we have or should we develop for their reclamation? How do we reclaim the talents of adults so as to enable all of our citizens to meet the demands of life, citizenship, and livelihood in the best possible way?

Many of the issues raised here are dealt with in some detail in my book, *Let's Work Together*, designed for teacher orientation. Commended for further "must" reading for citizens and public educators is *What Black Educators Are Saying* (Hawthorn) for release in the spring of 1970. Black educators will be seen in this volume as representing some of the best underused educational talent in the nation for helping others to deal with the critical questions of what, where, and why in our elementary and secondary schools in the 1970's.

Education for the days ahead, and especially for the decade of the 1970's, must have new approaches to reassessment, new ideas as to where to begin, and it must develop worthy answers as to the purpose of education in a democracy which would fulfill its ideals and enable itself to survive.

REPORT OF THE YALE CONFERENCE ON LEARNING*

Edward Zigler, Professor and Director, Child Development Program, and Willa Abelson, Research Staff Psychologist, Department of Psychology, Yale University, New Haven, Conn.

The Yale Conference on Learning centered about "the child who does not learn." Its manner was informal; its purpose was to enable thoughtful representatives from education and the behavioral sciences to define and discuss problems represented by the nonlearning child.

I

The conference might probably be best characterized as a foray into a somewhat unfamiliar and ill-defined territory by representatives of disciplines which traditionally have experienced some difficulty in communicating with one another. That the conference at least diminished

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this problem was evident in the discussions, which were not only open and frank but, at certain points, surprising as well. Although a number of substantive problems were discussed and some tentative solutions suggested, it would appear that a major achievement of this conference was its illumination of polarities of thought and differences of opinion existing within and across disciplines concerned with the developing child. Knowledge of these differences, represented by the attitudes and thinking of the conferees, is not only imperative for those interested in social action, but essential to the success of any effort toward social change today.

II

Simply to enumerate the problems discussed at the conference would do an injustice to the richness of the dialog; moreover, such a listing would seriously understate the organic interrelations between the issues discussed. However, in this report an attempt will be made to describe certain lines of exploratory discussion as they converged again and again on a few common areas of concern.

There was complete agreement at the conference that the American educational establishment is currently being beaten about the ears. Certainly in recent years the inadequacies of America's schools have been the subject of constant criticisms ranging from shrill indictments to thoughtful conceptual analyses, with far more attention given to what's wrong with the schools than what's right with them. Although there can be little question that the schools' very vulnerability has resulted in certain criticisms that are unfair, the participants at the conference agreed that even when adjustment is made for unfair or inappropriate criticism, the country's educational system is plagued by broad problems involving the child, the teacher, and the school itself as an administrative instrumentality.

Schools are confronted with a growing number of children who, for a variety of reasons, do not learn what society would like them to learn, do not fulfill society's expectations for them. As a result, teachers who must daily deal with these children feel a growing sense of frustration and malaise. The pedagogical techniques with which they have been armed strike them as insufficient to the task at hand; therefore the conclusion they often draw is that the child is either impossible or that they themselves are ineffective. Moreover, the administrative superstructure of many school systems has not been and is not today characterized by the openness, the imaginativeness, nor the leadership necessary to help child and teacher in their mutual dilemma. Exacerbating these problems is the fact that the bulk of the country's behavioral scientists exhibit a certain antipathy or reluctance to become involved with the problem of the American school.

It became clear early in the conference that any discussion of the nonlearning child necessitates an examination of the major issues now confronting America's schools. The problems of teacher training, curricula, and the general treatment of the child in the school environment are ultimately bound to the question of the specific goals of the American school. Currently there appears a tremendous ambiguity in respect to these goals. Such ambiguity appears to be a resultant of forces acting upon schools from both within and without. Consider, for example, how schools have become the battleground for social change. Many segments of the society appear quite ready to use school children as instruments for changing the very nature of that society. As much as one may value the particular goals involved in such social change, one questions whether there might not be instances in which these goals are at odds with other goals to which schools are committed, e.g., the optimal learning performance of every child. This issue was highlighted by Dr. Samuel Brownell who pointed out how teachers find themselves in the midst of a political struggle when trying to do their very best with the disadvantaged child. For instance, since many of these children are slow learners, the teacher employs techniques geared to their learning rate. While this may be sound pedagogy, the teacher often finds himself assailed by the charge of cheating these children on their education. But the problems are by no means simple. It can be argued that the civil rights issue and its pragmatic consequences (integration, busing, etc.) are more important to society and the social education of the child than are the conventional efforts of school personnel.

Unquestionably the school is the handmaiden of society, but society today is extremely unclear in its charge to the schools. One cause of ambiguity might be assigned to the view that American society is not a monolithic and homogeneous entity but rather a spirited and sometimes freewheeling conglomeration of social forces frequently in conflict. The school that attempts to satisfy all these forces usually succeeds in satisfying none and is thereby branded a failure. But a failure at what? Who shall ever know whether the school is a success or a failure until the goals of the school are clearly delineated and agreed upon by segments of society?

Is there anything that the school can do to help determine what the legitimate goals of the school should be? Much of the current decision-making has been based on very little hard evidence. If society could be objectively and precisely informed as to how a certain strategy—integration, busing, introduction of culturally relevant materials—affects the child's intellectual and social behavior, then society would be in a better position to decide rationally on appropriate goals for its schools. In turn, this clarity and assessment of goals rest, at least in part, upon greater cooperation between school people and the behavioral scientists who possess the necessary research skills. (As will become clear in subsequent pages, this type of cooperation represents a problem in itself.)

In addition to the external forces which make the goals of schools unclear, there are differences among educators themselves as to the appropriate ends of the educational enterprise. The dispute appears to center about the very nature of the child as a learning system, with a polarity evident between cognitive-intellectual emphasis on the one hand, and emotional-motivational emphasis on the other.

Over-drawing the case somewhat, the cognitive-intellectual people view the child rather like a computer that shows up in the classroom to be programmed by the teacher. The emphasis thus falls on the intellectual pursuits, effective curricula, and concerns with those technologies helpful to the teacher in his programming task. At the opposite pole, the emotional-motivational people stress those aspects of the developing child which reflect his motivational system, his emotions, his values. The concern here is with those positive attributes which underlie all of the child's achievements, and with those negative attributes which must ultimately defeat the child's efforts regardless of both his ability and the teacher's knowledge of curricula.

The goals of the first position tend to be intellectual in nature, thereby charging the schools with the task of making everyone as intellectually competent as possible. The second approach emphasizes social competence, arguing that society has as much need of honest, reliable, and well-adjusted bricklayers as it has of physicists and college professors. The polarity itself demonstrates that the continuing possibility of the schools being branded as failures rests not on the basis of any absolute standards, but upon the particular goal to which the evaluator of the schools adheres.

The conferees were in agreement that the needs of children and society require that a genuine synthesis of the two points of view be attempted. A new type of school is necessary in which there is an emphasis on both scholarship and personal development. Such schools can be centers for child development where the teacher is a child devellopment specialist, not only trained in pedagogical techniques but expert as a student of human behavior in those areas particularly important to the understanding of the developing child. This school, broadening its activities to encompass more of the child's life, would be concerned with his physical well-being, with his personal determinants of success in intellectual pursuits, and with all relevant aspects of his family environment. The model for such an effort can already be seen in the Headstart program; the next logical step would appear to be to extend its principles to the elementary school enterprise. (This, in effect, has been done in a few instances.)

The success of such an effort depends on a new type of teacher training. It depends upon greater involvement by child development professionals both in pre-service and in-service training, as well as in the everyday activities of the school. It depends, further, upon school systems characterized by openness, flexibility, and commitment to the goal of optimal development of every child whatever his intellectual potential. The key, then, to improving the impact of the American school rests upon solving current problems related to teacher training, to involvement of knowledgeable—but to date relatively uninterested—behavioral scientists, and to the reform of school systems that are all too ready to pursue outdated forms of education unresponsive to the needs of a large number of the nation's children.

Although the point of view presented immediately above was received warmly by many of the conferees, it was looked upon with a surprising degree of disdain by others. This disdain was aptly expressed by a superintendent of schools who asserted that he felt like a quarterback asked to devise intricate plays when his players did not even have the shoes which would allow them to get good yardage out of familiar plays. There is much reality reflected in this argument of school men who assert that the bread-and-butter problems of the schools must be solved before the schools can be open to any radically new or utopian concept.

Yet the degree to which any system can change depends on its openness to new ideas. Throughout the conference there was agreement that the typical American school tends to be a closed rather than an open system. Although a description of a problem is not an explanation, it would appear that one reason for this is the continuous bombardment of the schools with ideas and innovations quite distant from the real and immediate problems. Moreover, it is a fact—one not readily faced by many social activists—that the many pleas for change and improvement to which schools are continually subjected have not been accompanied at the local or national level by the commitment of funds and interest that make great changes possible. Too many of America's schools are wrestling with outmoded physical facilities, crowded classrooms, and salary schedules that make it impossible to attract good people. Given this state of affairs, it is indeed understandable that many pundits go unheard.

Unfortunately, this problem of the commitment of society to the educational enterprise can be solved neither by the educational establishment nor by its critics; it demands the awareness of the people and the action of their representatives at local, State, and national levels. Despite the consensus that bread-and-butter problems are not solely responsible for the less than optimal education offered to many children today, there is little doubt that until the minimal needs of a school system are met, that system will be hampered in any truly innovating effort.

Two themes recurring in recent attacks on America's schools are the "fossilization" of so many school administrations, and the failure of the classroom teacher fully to develop America's children. Although a school, like any other social institution, tends to take on an existence and character somewhat independent of the individuals who constitute it, there is a consensus that the quality of the school is in large part determined by its current administrators and teachers.

In considering the first issue, many of the conferees felt that too many of America's schools are closed rather than open systems. They suggested that there is a real need for such schools to use the services of those specialists who can analyze the reasons for such organizational rigidity. This immediately raised the question: Can schools that are indeed closed systems even engage in this minimal type of openness? School people, like any other group of humans, do not like to engage in painful introspection; nor do they relish becoming the subject of critical analyses by outsiders who can easily be accused of "not really understanding the problems." Moreover, if society is unresponsive to the pressing needs of the school, why should the school be receptive to what appears to be unrealistic demands of society in general and critics in particular? The very amount of criticism leveled against the schools, much of it recognizably unwarranted, is in itself sufficient to guarantee a certain rigidity and lack of openness. When under attack from all sides, it is adaptive for any organization (or individual) to pull in its head and defend itself behind those organizational barricades which have proved so effective in the past.

There was a feeling at the conference, nevertheless, that some of the inflexibility in many schools does reside in the personality of the school administrator as well as in the very nature of the school as conveyer of society's values and social heritage. Undoubtedly, while there are many excellent school administrators, too many schools are in the hands of individuals intellectually or psychologically ill equipped to deal with the problem of change *per se*.

The conferees were in agreement that school administrators must be selected and trained for administrative positions. The natural selection procedures currently employed in no way guarantee that schools will be administered by innovative men of vision; indeed, promotion through the teaching ranks, as is typically the case, appears to be an outmoded method of fulfilling the schools' needs for administrative personnel. Such training as the conferees proposed would involve much more than those typical courses now thought to be sufficient to retrain the teacher, and thus to produce an administrator. It must also be remembered that even in those instances where no courses in administration are required, classroom teaching—no matter how effective—does not provide an adequate apprenticeship for the demands of administration.

The school administrator must be broadly schooled in the areas of organization, human relations, and social change. It was agreed that so long as a school is in the hands of a rigid and unresponsive administration, the imposition of innovative and fresh pedagogical techniques is impossible. The need here, however, is clearly two-fold: effective training for those administrators who soon will be entering the school systems; and effective retraining of many administrators already in positions of authority and influence.

The considerable discussion given to the problems of the schoolroom teacher revealed a judgment that when all is said and done, schoolroom education is essentially a process involving teacher and child. No amount of pedagogical theory, educational technology, or administrative sensitivity can adequately insure optimal learning if it is divorced from the behavior and performance of the classroom teacher. (It should be noted here that the conferees were concerned by the continuing practice of removing talented teachers from the classroom in order to deposit them in administrative positions.)

While noting that America is blessed with many fine teachers, there was considerable feeling that a number of these same teachers operate at a level beneath their actual competence. Classrooms are too frequently populated by teachers feeling trapped and harried, facing children they do not truly understand, dominated by daily schedules which make little pedagogical sense, caught up in a bureaucratic network often insensitive and unresponsive. There was complete agreement that teachers must be provided with the best preservice and in-service training possible; likewise, there was the realization that many teachers now receive training far beneath this proposed standard.

A recurring theme of the meeting was that good teaching is intimately related to a knowledge of child development. The educational psychology taught to future teachers must involve much more than theories of learning supplemented by a smattering of information concerning outcomes of applied educational research. Too, prospective teachers must be conversant with the principles, dynamics, idiosyncracies, and social mores of particular American subpopulations. All of this must then be coordinated with a knowledge of techniques and subject matter in such a way as to insure a creative translation into the everyday activities of the classroom. This job, if formidable, is far from impossible; indeed, instances of such training and classroom application can be found throughout the country.

Much emphasis at the meeting was given to the importance of inservice training and the role of summer institutes for teachers. The point was made that because of the student teacher's lack of experience, many of the principles taught to him during preservice training seem relatively meaningless. However, when such principles are tied to actual, daily interactions between teacher and child they become the vehicles of understanding and of sound practice. The learning of the teacher must never stop; this learning is optimized when it is continually related to the face-to-face interactions between teacher and child.

A major theme of the conference was the relationship between behavioral scientists and educators. The centrality of this issue is understandable if one remembers that the solutions of many of the problems discussed demand closer cooperation between the two groups. Running through the meeting was a somewhat acrimonious thread of discussion, centered about the view that behavioral scientists are not making available to educators the considerable information from the social science disciplines pertinent to education.

The response to this indictment revealed a rather wide spectrum of thought. There was certainly agreement that communication between educators and social scientists is poor, that the one group has profited very little from the other. However, there was little agreement as to the reason for this state of affairs. There was some sentiment that apathy towards the problems of educators on the part of many behavioral scientists is matched by a certain hostility towards behavioral scientists on the part of many educators. A discussion of this hostility indicated that it is actually a combination of defensiveness and disappointment, understandable if one remembers that the behavioral sciences are ostensibly the knowledge-gathering arm of the educational enterprise. The teacher-in-training and the teacher-in-practice look to the behavioral sciences for those theories of learning and instruction, those validated principles of human behavior, that will be of aid in teaching. Their expectations are early dimmed when the bulk of behavioral science knowledge transmitted during the teacher training period involves dry-as-dust theories of learning that seem unrelated in any way to classroom teaching. The teacher's hopes are further squelched during his professional career when he learns that behavioral scientists are loath to leave their ivory towers and apply their skills to the problems that daily confront him in the classroom.

The other side of this rather tarnished coin is the fact that when behavioral scientists do make their infrequent forays into schools their efforts often appear sterile to the teacher, and his normal reaction is to defend his own values in the face of what he mistakenly views as an alien onslaught.

Speaking very frankly about this regrettable state of affairs, many of the conferees pointed out that, with certain exceptions, teachers' colleges are staffed by behavioral scientists of relatively low quality. Thus, during formative years teachers encounter those behavioral scientists least qualified to provide guidance and information. Furthermore, departments of education often profit minimally, if at all, from their physical proximity to first-rate behavioral scientists in the same university. If the knowledge of social scientists is to be of aid to educators, the first focus of change must be the university itself.

It was pointed out at the meetings that in spite of their vocal dedication to many value-laden principles, universities themselves often represent the most closed of closed systems. Their insulation and self-satisfaction must give way to new modes of instruction for the teacher-in-training. Academic systems must be developed whereby teachers receive the best rather than the worst training in the social sciences that universities have to offer.

Again speaking frankly, the participants pointed out that a status problem is involved in the relative indifference of behavioral scientists to problems of education. Part of this status problem has to do with the applied-basic distinction in the social sciences. The social scientist who goes about testing a theoretically derived hypothesis is seen as higher in the pecking order than the applied psychologist testing an empirically derived hypothesis concerning a practical matter dealing with schoolroom performance. There was agreement that such a dichotomy is essentially false, that the theoretical and the practical must coalesce, both for the sake of an enriched behavioral science and for the solution of practical problems at hand.

There are some signs that this state of affairs is changing; this is exemplified by the work of outstanding thinkers (Bruner, for example) who move freely between rarified theory and problems of everyday performance of children. Today growing numbers of scientists are turning their attention to the problems of the schools. An important development here is the growth of psycho-educational clinics similar to those which have been established at Yale and other major universities.

An important aspect of this development is that mutual respect must be built up between educator and social scientist. As long as the social scientist's role in the school remains that of a mere appendage to the faculty and to the daily school routine, he cannot aid the educator. The social scientists' natural habitat must be the school, for there, in collaboration with teachers, researchable questions will naturally arise. Too, educators should not expect more of behavioral scientists than these men can honestly deliver. Little is to be gained from the all too common practice of the educator's confronting the behavioral scientist with broad questions for which he expects answers on the spot. Educators must be made aware that while many of the important problems of education are researchable, they often involve long years of careful work. The appropriate reaction to this necessity ought to be a willingness to promote the research, not a disdain for the length of time it requires.

On the other hand, behavioral scientists should not shirk their responsibilities, nor continually take refuge behind the demand for absolute certainty. Child psychiatrists, psychologists, sociologists, and social anthropologists can be of great help to educators in the here-and-now. There is much knowledge now available to these specialists; there are many current problems of great importance to the classroom teacher to which this knowledge can be productively applied.

Dr. Seymour Sarason and Dr. Albert Solnit cited numerous examples of the help they and their staff were able to give teachers once they had committed themselves to working in the school environment. Clearly, as their examples showed, the classroom itself would appear to be the natural habitat for the specialist who wants to be of assistance to the teacher and child. The specialist does not optimize his impact by removing the child from the classroom and engaging him in an enterprise alien or barely understood by the classroom teacher. It is the teacher who must be trained by the specialist in those principles of behavior (even therapeutic teaching) that allow him to continue his interaction with the child rather than terminate it or relinquish it to the specialist.

Thus the appropriate role of the social scientist in the school appears to be twofold. First, in close cooperation with the educators, he must evolve long-range researchable questions which will eventuate in answers to teachers' pressing needs for general principles of instruction. Second, he must develop new modes of interaction with educators that will allow him to bring to the schools the important knowledge at his disposal.

III

In the course of the conference, there evolved recommendations for constructive steps toward the solution of some of the problems raised. Since definitive answers were not the goal of the conference, the discussion resulted in a list which the conferees consider neither systematic nor exhaustive. Rather it represents a pool of suggestions for further consideration in plotting action programs.

Specific note was made of the custom in many school systems for teachers and individual specialists to work independently: this results in fragmentation of the child as well as failure to provide the educator with any real help in dealing with the day-to-day schoolroom problems. Since there are not, and probably never will be, the number of specialists needed to give adequate assistance to teachers coping with learning disabilities and behavior problems in their classrooms, one of the conferees suggested a more effective utilization of already available manpower through a redefinition of the roles of auxiliary personnel.

The need to translate the behavioral scientists' knowledge into principles applicable to education also raised questions of the quantity and quality of manpower necessary for such an interdisciplinary effort. (This is related to the previously-noted feeling of the conferees that many of those behavioral scientists most qualified to make such translations are not in educational training institutions.) It was suggested that efforts be directed toward establishing formal arrangements for sharing personnel such as joint appointments and visiting lectureships. The participants also noted the value of enlisting behavioral scientists from many fields—sociology, anthropology, economics, systems organization management, as well as psychology—in adapting educational theory and practice to the knowledge available concerning all aspects of human development and behavior.

The need for in-service training specifically directed to the problems raised at the Conference was repeatedly emphasized. A number of ideas were incorporated into this discussion as well as into the discussion related to the problem of transmitting new materials on a national scale to local school personnel. Several specific suggestions were advanced:

1. Core teams (e.g., a superintendent, a principal, several teachers, remedial specialists) from selected school systems across the country should meet for summer institute programs in topical areas such as

child development, translation of psychological principles into instructional theory, and the like.

2. Summer institutes with follow-up school year seminars and workshops should be conducted for personnel in the top leadership echelons of a number of school systems. A major focus of such institutes should be the evolution of the school as an open system.

3. Nation-wide dissemination of fully-developed programs for in-service training of teachers should be accomplished through circulation of complete packages of educational materials, development of new kinds of texts and teaching devices, and new kinds of courses for local in-service training programs which will speak directly to the everyday needs of educators. One participant suggested that model schools be set up within school systems, staffed by teachers known to be effective in dealing with a variety of typical problems. Teachers would rotate annually or biennially through these schools, in a training experience closely geared to the here-and-now problems they face.

Behind the expressed feeling that American schools need a new set of models developed at the national level, lay the repeated concern about the lack of a national educational philosophy, the lack of a well-defined set of goals toward which the entire field of education might direct its future development. It was suggested that specific models for different developmental levels might be proposed, each designed for the needs of the age groups in question. For example, a model for the four-to-eight-year old (pre-kindergarten through third grade) might emphasize greater contact between school personnel and parents; in this way the role of the teacher vis-à-vis the home and community would be defined differently from that of a teacher of another age group. A child development specialist might well be an integral part of the administrative structure of such a model, either as a team teaching leader or as a consulting specialist for remedial and emotional-behavioral problems among these young children.

The conferees also suggested a specific proposal for an overall model for the inner-city school, while pointing to the necessity for different models designed for the suburban school.

Finally, it was suggested that the NDEA Institute program for disadvantaged children be completely modified in favor of a program for planned change to be developed through a series of discussions similar to the Yale Conference. This program would result in the incorporation and translation of behavioral science knowledge into a total curriculum comprised or discussion guides, kinescopes, lectures, books, library lists, and the like; these, in turn, would form the basis for an extensive program of summer institutes. Fifty or more institutes might be conducted for core groups from school systems across the country. The inclusion of school administrators in such core groups would be a key part of such a program.

IV

As was noted at the beginning of the report, no written account can justly delineate the spirited discussion of the Yale Conference. It is hoped, however, that the Conference, and this report, have given some additional focus within the broad spectrum of problems to be solved by educators, clinicians, and behavioral scientists, so that American society can fully develop its most precious natural resource—the child.

PART TWO

This section is composed of the formal statements prepared by witnesses who testified at hearings of the General Subcommittee on Education, October 2 to December 18, 1969. The witnesses addressed themselves both to the general subject of needs of elementary and secondary education in the seventies and to the following specific bills before the subcommittee:

—H.R. 517 *To increase educational opportunities throughout the Nation by providing grants for the construction of elementary and secondary schools and supplemental educational centers, and for other purposes*

—H.R. 776 *To authorize a two-year program of financial assistance for all elementary and secondary school children in all of the States*

—H.R. 9866 *To set forth a congressional statement on a national educational policy and to direct the Secretary of Health, Education and Welfare to initiate a comprehensive study on the formulation of a plan to implement such policy*

—H.R. 10833 *To provide Federal assistance to States for improving elementary and secondary teachers' salaries, for meeting the urgent needs of elementary and secondary education, and for other purposes*

—H.R. 11546 *To establish a national program of assistance to the States with the goal of achieving equalized excellence in schools throughout the Nation over a ten-year period*

The statements in part two are arranged in chronological order according to the dates on which the witnesses appeared before the subcommittee.

STATEMENT OF JOAN GANZ COONEY, EXECUTIVE DIRECTOR, AND EDWARD L. PALMER, RESEARCH DIRECTOR, CHILDREN'S TELEVISION WORKSHOP

October 2, 1969

The Children's Television Workshop is an experimental unit created a little more than a year ago to test some notions about the potential of television to reach and teach preschool children in this country.

The operational phase of our experiment will be conducted in full view of the general public beginning November 10, on more than 170 public television stations, from coast to coast. The vehicle will be a daily, hour-long television program, entitled "Sesame Street." Its potential audience will be the 12 million children between the ages of three and six, with particular emphasis on those within that group who are residents of so-called disadvantaged surroundings.

Our aim is to see whether or not a full-scale effort can help prepare young children for school in a manner as entertaining as the other programs they watch.

The workshop owes its existence to a series of related conclusions that educators, researchers, government officials, economists, and students of the electronic media have made within the past 10 years:

1. The mounting scientific evidence that points to the fact that a major part of a person's intellectual development takes place before he enters school.

2. The growing awareness of the plight of the disadvantaged child who enters primary school as much as a year or more behind his middle-class counterparts, in terms of intellectual development, and never does catch up.

3. The knowledge that the cost of beginning formal education at age 4 as has been suggested by a number of educators, including a long-range study group of the NEA, is probably prohibitive—at least at the present time.

4. The recognition of the growing role of TV as a self-appointed surrogate teacher to almost all children of every social and economic class.

I was asked more than two years ago by Carnegie Corporation officials to understake a study that would inquire into the feasibility of TV as a teaching tool for preschoolers. I talked to scores of educators, psychologists, and other early childhood development experts who convinced me that the country was wasting a precious natural resource by not undertaking a major program to enroll children in free, public education at a much earlier age than we do now.

I discovered that half of the country's school districts don't have kindergartens today and that only about one out of four preschool youngsters from low-income, inner-city areas was in any program that would even remotely be described as potentially educative.

The problem for the disadvantaged child is much more crucial than for any other group. If the child of a poverty background begins school behind his middle-class counterpart, the gap—if anything—tends to widen as he continues in school. The results we all know about: a sense of inadequacy and defeatism, a loss of motivation, and, ultimately, a tragic failure to realize his potential as a person. This is why many educators and government leaders endorse universal classroom education starting at age 4.

The precise cost of entering the 12 million children between ages 3 through 5 in formal schooling has never been determined, but one estimate put it at $3 billion, not including classrooms, and didn't say where the teachers were going to come from.

It became apparent to me that such funds were probably not going to be immediately forthcoming from any source, but the question still persisted—can anything be done in the meantime?

That is where television comes in, because TV is now almost classified as a necessity in many homes, and in low-income homes where most forms of entertainment are almost automatically foreclosed on economic grounds alone, the TV is not just an important piece of furniture; it is the entire family's window on the world.

Television sets are owned by 96 percent of all U.S. families and even in homes where the annual income is less than $5,000 annually, 90 percent own at least one set.

Similarly, the incidence of use—particularly by young children—is high. They may be exposed to as much as 60 hours of TV watching a week. By the time such a child begins school, he will have logged more hours before the set than he will spend in class during his first five years of formal schooling.

To report these facts is not necessarily to approve of them, but instead to underscore a phenomenon of our time: with television almost everywhere, children pick up the habit early and stay with it for years. The prospect for stopping or reversing the phenomenon is remote.

And so it was concluded that if the majority of preschool children would have to be educated outside of the classroom until age 5 or 6, TV might make a compelling substitute, if a program that could teach could be as entertaining as the many hours of noneducational programing the child watched.

The Children's Television Workshop was created in March 1968 to further test the potential of the medium. Its initial funding called for a 50-50 share between public and private sources. Carnegie Corporation and the Ford Foundation joined with the U.S. Office of Education, the Office of Economic Opportunity, and several others to support the Workshop at the level of $8 million for its two-year initial phase. The first year was to be devoted to organization and research and development activities and the second to the production and airing of 130 original hour-long programs.

Central to the experiment was to be a full-fledged research department to conduct in-depth studies prior to the show's going on the air and a program of independent research to be conducted immediately before and after the broadcast period to test the program's overall impact and effectiveness.

Our first act was to define our activities—what we would attempt to do and, as important, what we would *not* try to be.

Our basic experimental question was posed: Can the techniques proven successful in commercial television be adapted to the teaching of preschool children? A word about the phrasing might be helpful: because children of all backgrounds do watch a lot of television, it was early agreed by the Workshop's backers that commercial techniques would have to be used if the series were going to compete for the children's attention with the many other hours of programing he regularly sees.

We established some parameters for the project at the outset. We were not intended to be a substitute for other forms of childhood education, nor could we present a truly comprehensive program of early education. But the program could be a complement and supplement to other approaches, in other words an option that might achieve certain limited, selected goals quite well.

We collected nearly 100 of the country's leading educators, child development experts, psychologists, school teachers, film makers, writers, and artists to help us map our goals. In five, three-day seminars conducted during the summer of 1968, they explored five curriculum areas in minute detail. The areas were:

social, moral, and affective development;
language and reading;
mathematical and numerical skills;
reasoning and problem solving; and
perception.

A permanent board of advisers was also named and a chairman selected. The chairman is Dr. Gerald Lesser of the Harvard Graduate School of Education, who helped us to develop a set of instructional goals we believe are attainable by means of television.

Major and specific curriculum objectives include recognition of the letters of the alphabet; increased vocabulary; numbers, including recognition and counting; geometric forms; and the development of basic thinking skills, such as reasoning and problem solving.

In broad terms, we hope to make the young child more aware of the world around him. Another important goal area deals with developing a greater sense of self-identity.

I have brought with me today a few samples of the types of materials that will go into "Sesame Street" each day. Bear in mind when you see them that they are parts of a whole—a whole hour each day, in fact—and so will not give you any sort of rounded picture of the series.

Some of the films are patterned after the sort of short, tightly-focused message that advertisers employ on television to sell products. The first film, on the letter J, was actually the first piece of animated cartooning we commissioned and it received a great deal of intense testing and analysis earlier this year. The slang and the references to jail and justice bothered some people, although the children tend to take such references pretty much in the spirit they are intended—simply as nonsense rhymes.

The second film—on the letter D—is similar, but was produced several months later and benefitted from the researchers' findings.

Film: J Spot and D For Dog

Now the first spot on the letter J held the children's attention and we found that as few as four to six uses of the film in an hour of general children's programming was all that was needed to establish 100 percent recognition of the letter. All of the children in this test who saw the J cartoon four or more times could identify the letter, but more than that we also found they liked the jingle so much they tried to learn it. A shortened version, which ends with the first appearance of the judge, was easier to memorize and even more effective.

Incidentally, our testing of individual film segments was done for the most part in day care centers in New York City. A series of five test programs produced this past summer was tested on a panel of children in home situations in Philadelphia.

The D commercial emphasizes the sounds of the words dominated by the letter and is shorter and faster paced. It gained a 93 percent span of attention during use in sample shows tested on a group of children in Philadelphia, but it was not used often enough to really establish its overall efficacy.

Counting is another of our goal areas, and our advisors suggested we approach the subject in several different ways, including counting backwards. Here are two cartoon treatments and one live action approach:

Film:
Countdown #1; 1-2 Erase Your Shoe;
Countdown #2; Eggs and Cookie;
Countdown #3

The two cartoon spots you saw were tested individually and together. Both of the films scored well with the children and, on an individual basis, positive learning gains were registered after ten showings. But even more interestingly, a combination of the two spots was more effective than the showing of either spot alone. In fact, twice as many children learned to count from the combination of the two spots as learned from seeing the "One, Two Erase Your Shoe" jingle alone. And three times as many learned from the combination of the two spots as from seeing the countdown sequence alone.

A number of films and script outlines are in production to teach logical sequencing and relationship words. Here are two examples of the type of film we have created for "Sesame Street" in this area. The first we call "Over, Under, Through, and Around." The second features a continuing cartoon character whose short demonstration lectures and humorous endings we believe are going to be effective.

Film: Over, Through, Under and Around; Little Alice Through.

Repetition and pace are two areas we are trying to study. We know children enjoy seeing short items repeated and the repetition reinforces the learning. Fast action is another thing that keeps their attention. The first of these next two examples is a contemporary styled cartoon to teach the number, two. The children like it, but we are not yet sure it works well as a teaching device. The second short bit you will see here introduces a human being, in this case one of our hosts, conducting a painless sorting exercise in song.

Film: Jazz Two and Susan Sorting

The woman you have just seen, Loretta Long, is one of "Sesame Street's" four regular hosts who will provide the human warmth and interaction for each day's program which we believe a program for preschoolers needs.

Our final example shows two different approaches to teaching about a letter.

Film:
Kermit Monster;
Wanda the Witch;
Kermit and Walking W

The Wanda the Witch cartoon was repeated frequently and gained high attention and retention marks from the children who viewed it. The frog segments were just as appealing to the child as they are to adults. By the time our test shows ended in Philadelphia, the letter W was on its way to becoming a known quantity among our test population.

By the time "Sesame Street" reaches the air next month, it will be the most thoroughly researched, analyzed, and studied program in the history of the medium.

There are two distinct phases of research activity involved in the Children's Television Workshop experiment.

The first we refer to as "formative research" and it took place during the year of prebroadcast activity. Briefly, it entails study of the target audience and relay of information directly into the production phase of the show well in advance of broadcast so that the program's creators could learn the magnitude of appeal and the quality of instructional effectiveness was inherent in the film and live action material they were developing.

This type of researching will continue into the actual six-month broadcast period with testing scheduled at three-week intervals, allowing the producers to alter the course of the show as the results indicate. This progress testing will involve a cross-section of children in Maine, Long Island, and Nashville, Tennessee, locations.

The second research phase, which we call our "summative research," also overlaps our November 10 broadcast beginning, and involves a major national study by an independent research agency, Educational Testing Service, of preschool samples in Durham, North Carolina, Boston, Philadelphia, and Phoenix, Arizona. This study calls for pre- and post-tests bracketing the actual six-month season of "Seasame Street" broadcasts.

ETS has intimately followed the development of goal definitions and the experimental program production. They have developed a set of tests appropriate to the goals and the achievement level of our audience which will cover the areas of letters, numbers, geometric forms, perceptual discrimination, vocabulary, knowledge of the physical world, concepts relating to self, and social interactions.

You might be interested in a brief, highlight tour of what we have attempted to learn in the year of pre-broadcast research employing our internal research staff.

After defining our basic instructional goals, we had to determine how much the children in our target group already knew in these goal areas. The show, after all, must reach the children at the present achievement level and build on their existing knowledge.

For this, we developed a special set of tests and administered them to a number of children. The results revealed a considerable range of achievement, and it became clear we would have to address our instruction at several levels of learning readiness simultaneously.

We experimented with production elements to see if this approach could really be successful. The J cartoon spot is a good case in point. We found that some children learned to recognize words with the initial J sound from the cartoon, while other children learned to pick out the symbol J from among various other letters, and others began trying to draw the letter. Some of the children improved their awareness in more than one of these skill areas at the same time.

We also had to try to identify the types of program elements which would most likely capture and sustain the attention of the children. We needed to learn how much emphasis to place on puppets, live characters, animals, other children; and at the same time we needed to know how much variety to employ. We had to find out what the optimal pace should be, which elements would bear up best under repetition, and how to schedule these repetitors for maximum learning. With pieces of film such as those devoted to cartoon stories on letters of the alphabet, we wanted to know if we should show it five times in one day's show or once a day for five successive days to achieve the most lasting impact.

We also wanted to learn how to elicit active participation on the part of the viewers, and having done so, how to make this participation pay off in terms of learning.

And finally, we wanted to find out if it is possible to combine entertainment, which is essential for reaching and holding our intended audience, with instruction without compromising either element.

We believe we have successfully done this; at least we have developed some specific results from our testing which we have relayed to the producers, writers, and directors of "Sesame Street" to help them to prepare the final show. This is a body of knowledge that TV producers have never possessed before. Indeed, the morning-after remarks of the TV critics and the audience measurement figures that come along weeks or months later are often the only knowledge of impact television creators ever get. To be able to amass some information even before a show goes into production, much less before it is shown to the public, is an unknown luxury for producers and presents an unparalleled opportunity for the research staff.

In a very real sense, we are acting as interpreters between the target audience and the producers of "Sesame Street." And the target audience—also for the first time in television history—is having an opportunity to help shape the kind of show they will see.

Thanks to the methodology for measuring the appeal of various show elements we developed, we were actually able to serve as scientific auditioning agency for many of the techniques and segments the producers considered for use on the series. The use of live animals, puppets, various approaches to reading children's books, the singing of songs and the designing of live-action films and animation were among elements we tested out for the show's creators.

Not all of the research has been positive.

One prototype live-action film, a satire on commercial TV adventure shows which involved a bumbling, trench-coated anti-hero who somehow managed to outwit his foes with the help of a bright young boy, was finally dropped from the "Sesame Street" series—at least in its original form—in part as a result of the relatively poor grades it got in research tests on young children in day care centers. We believe that much of the risk and guesswork of preparing a program such as ours is avoided when the viewers themselves are involved in the selection of program elements.

Our basic tool was and is a "distractor" which is nothing more than a slide projector which every few seconds displays a new color photo of a variety of scenes which are fascinating to children. It is set up next to a black and white TV set connected to a videotape recorder which contains show material being tested. Our researchers ask the children, singly and in groups, to sit before the set and record the proportion of each eight-second interval when a child is watching the television presentation as opposed to looking at anything else, including the distractor. We accumulate the data on graphs and analyze it in company with the program's originators to determine why attention rose or fell during the test piece, or to study the strengths and faults of other competitive TV fare.

These charts will help to give you an idea of how we approach our efforts and what we have learned. Before the Workshop had actually commissioned any original cartoon or documentary film material, we tested existing children's TV show material on a number of children, following up later with similar studies of our own show materials.

Here are our test results for three popular commercial cartoons of the Saturday morning variety. They are, for the most part, avowedly entertainment shows with little or no education or instructional goals at all. Continuous records of the visual attention span for the four-year-olds we studied indicate these shows are between 80 percent and 90 percent effective in holding attention.

We also totaled the impact of young viewers who were placed before a set programmed to show segments of current educational programs for young children. The attention level here was 65 percent.

Finally, we totaled attention levels for the two of our five preproduction test shows which were statistically analyzed in greatest detail. Remember that this material, while couched in entertainment terms, embodied a full complement of instructional material. We were heartened, therefore, to see that the total visual attention span was 89 percent and 88 percent, clearly competitive in appeal with the commercial cartoons.

There is no question that the producers of the shows, most of whom were formerly involved in commercial children's programming, deserve the major share of credit for this outcome. However, there is also no question that they greatly sharpened their sense of the 4-year-old's taste as a result of our appeal testing.

How they got their scientific insights into the youngsters' interests is detailed in these moment-to-moment charts of our test shows which trace the attention-span of the children to very specific points of each program.

This graph is based on our own first experimental hour-long show which had an overall attention level of 90 percent. By associating the elements contained in the program with the high and low points of the graph, we are able to identify the least and most appealing techniques. It was interesting for us to note that the interest was just as high at the end of the hour as it was earlier in the program.

A final word on the ways and means we are transmitting this series and building an audience for it would probably be of interest to you.

We decided to transmit "Sesame Street" through educational television stations—which are now called "public television" stations—for two reasons. First, the series could not be sponsored in the customary sense that it would carry commercials for products or services because we are using these very same techniques "selling," if you will, letters, numbers, and concepts. It was apparent that few, if any, commercial television stations could surrender a minimum of five hours of prime morning time each week. Second, the research and development phase of Children's Television Workshop is considerably longer than commercial television could afford, and we considered this lead time crucial to the potential success of the project.

There were and are some problems, however. The first one was the need to obtain morning clearance time for the program in as many communities across the country as possible to give the experiment roughly the same opportunity in each market as possible. Most educational channels give over their daytime programming to local boards of education who broadcast in-school instructional television programs during the week days.

This meant that station staffs had to prevail on the local educators to read their instructional mandate in the broadest possible context to make room for our show.

Of the 170 public television stations, 100 will be carrying the show during the requested forenoon hours, and 85 of them will be repeating the show again in the afternoon. A growing number are talking of turning on their transmitters on Saturday and running the previous week's shows one after another during these prime children's television hours.

Having solved the station clearance problem, however, we are faced with yet another fact of life peculiar to public television. Public TV has developed a loyal but numerically tiny audience. Its programming has been aimed at more sophisticated, better educated elements of our nation, with the result that local educational stations are little known to the mass of TV viewers and virtually unknown in poverty areas.

Add to this the fact that many public television stations are on the UHF frequency and a number of TV owners have had little occasion to figure out the relatively difficult method of tuning these high-number channels even if their sets are equipped to receive UHF signals—which by law they have been for about five years now.

So, attracting the audience for "Sesame Street" became a major challenge, requiring nearly as much advance planning and activity as the research and production phases of the program. Paralleling our other pre-broadcast activity have been the beginnings of a major information and utilization effort, particularly in the largest cities in the country with large numbers of low-income, inner-city residents.

The Workshop has made special grants to stations in 10 of the largest cities and the stations in turn have created their campaigns tailored to their own viewing areas. They have enlisted organizations who are interested in early childhood education and have experience in working with the inner cities, and have asked these groups in turn to stimulate volunteer activity to create numbers of small viewing groups to watch the show. Head Start, day care centers, and nursery schools have been contacted as well.

The Workshop itself is conducting the information campaigns in Boston and New York City and preparing and providing materials for the use of all 170 stations that will be carrying "Sesame Street." The Workshop information department is also mounting a nationwide publicity campaign in advance of the show in both general and special interest media, with particular emphasis on black publications and radio stations.

The most important informational tool we are preparing is a monthly "Parent/Teacher Guide" to the show which lists the educational elements of each day's program and suggests some specific follow-up activities and games which the children can play after the show to reinforce what they have learned. These guides will be distributed free of cost to low-income areas of cities which are carrying the program in the morning and sold on a mail subscription basis at a nominal fee to others on a nonprofit basis.

Two public announcements in the past week have reminded us that the subject matter we are dealing with at the Children's Television Workshop is very much in the mind's eye of those in our society who are concerned with the direction of education and the use of mass media.

The first was the report by Dr. Milton S. Eisenhower of the National Commission on the Causes and Prevention of Violence on the subject of television programming. You may recall that one of the Commission's most specific recommendations to the President and the Congress was for adequate and permanent financing for the Corporation for Public Broadcasting so that, in the words of the report, "it may develop the kind of educational, cultural, and dramatic programming not presently provided in sufficient measure by commercial broadcasting."

Our project, incidentally, is considered by the Corporation for Public Broadcasting to be the prototype of just this type of meaningful alternative that the Eisenhower commission is talking about.

The second public announcement which drew our attention was the speech by U.S. Commissioner of Education James E. Allen, Jr., in which he called for the creation and support of a national commitment to deliver on what he called "the right to read" in the next decade.

We believe that the Children's Television Workshop can play a significant role in readying children to read, while providing constructive entertainment via television.

We hope at the very least that this project will stimulate many more innovations in both television and education. At most we hope that our efforts will represent a first step toward a more planned and consistent use of television to help meet some of the critical challenges facing this country today.

STATEMENT OF JAMES J. GALLAGHER, ACTING DEPUTY ASSISTANT SECRETARY FOR PLANNING, RESEARCH, AND EVALUATION, DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

October 2 and 9, 1969

We wish to thank you for allowing us to discuss with you some of the recent achievements of educational research funded through Congressional action. As you well know, Federal investment in educational research and development has a very short history. The basic authority, the Cooperative Research Act, is not yet 15 years old and the Elementary and Secondary Education Act, which provided the first substantial funding, is less than 5 years old.

Within that short space of time, many changes have occurred in educational research; changes in expectations, in emphasis and, most important, in our understanding in how research can get translated into changes in the child and the classroom.

When I began work in educational research, life was much simpler. You were expected to conduct a research project, write journal articles, give papers at professional meetings, and perhaps write a book or two. The only trouble with that approach was that it had no observable effect on the educational system. This realization has brought forth a new view of educational research and development and a very different effort based on that view. The new effort is not merely designed to conduct isolated research projects, but to organize a complex system of research, development, demonstration, and dissemination activities that will insure that the outcomes of research and development find their way into educational practice.

One example of the variety of tasks necessary to transform knowledge to educational action may be useful to set the stage for the presentations we have prepared for you.

When we think about major changes in the physical world around us, we are used to complicated and differentiated tasks. If there is to be a change from the gasoline engine car to the electric powered car, we would expect major efforts in:

1. Research to improve power sources for electric cars;
2. The design of a prototype electric car;
3. The tryout of that car in varying settings;
4. A system for distributing and marketing the car; and
5. A determined public relations campaign to convince people that an electric car was what they always wanted.

If any of these five stages is overlooked or not carried out it is likely that we will not have an electric car in our garage in the near future. A similar sequence can be found in educational efforts.

Research can and has detailed the highly individual nature of human development. This by itself means little to the school or teacher.

Development in the form of sequences of instructional materials must be constructed that reflect the child's need to progress at his own rate of speed.

A *Demonstration* must be available to show teachers and others how these new methods for individualized instruction work in a variety of situations, perhaps even change the organization of the school itself.

Finally, *Dissemination* where successful practices are widely diffused through the educational system.

If each of these stages is not carried through effectively, then the school will not show meaningful change.

I have brought with me this afternoon three groups of people who are involved in activities which are representative of the sequence of events I have just briefly described. They are working on projects of high priority in relation to today's educational problems. All are aimed at the development of fundamental skills in reading, mathematics, and early cognitive development. All are being field tested in a variety of settings, but each has aimed in part, or largely, at the problems of disadvantaged youngsters. The three together illustrate quite different strategies to the solution of educational problems through research and development.

The program of Individually Prescribed Instruction was developed first at the Research and Development Center at Pittsburgh by Robert Glaser. This program was chosen for further development by Research for Better Schools, the Philadelphia-based Regional Educational Laboratory. The system is now being field-tested by the laboratory in more than 150 schools across the country.

The Patterns in Arithmetic program was developed by the Wisconsin Research and Development Center for Cognitive Learning of which Dr. Herbert Klausmeier is the director. This program is now being field tested by—among other groups and institutions—another OE research organization, the Northwest Regional Educational Laboratory based in Portland, Oregon, for use in rural and isolated schools. The research background of this new instructional product involves the careful development of instructional television coordinated with workbooks and teacher instructional manuals. The materials are currently being used by 5,000 teachers and 150,000 students throughout the country.

* * * * * * *

The last time we testified before this Subcommittee, Congressman Quie specifically asked that we share our problems with you as well as our successes. We happen to think that that is a most intelligent request and one to which we would like to respond. Most scientists ruefully agree with the validity of Murphy's Law which states, "If anything can go wrong, it will." The seeking of new ideas and new procedures guarantees problems; only the sterile repetition of past performance is free from error—it is also free from creativity, improvement, and growth.

An analogy might be useful in this regard. Let us suppose that we had, through time travel, moved ourselves back in time to 1869. As we arrive at that dim past, we feel the great need for an automobile to get around more effectively. We would find, however, not only was there no automobile, but no factory, no assembly plant to turn out an automobile, no tool and die makers to build the tools for the assembly plant, no engineers to design high compression gasoline engines and no highway system to travel upon. In short, an automobile is not an isolated product of our society but instead the end product of a complex set of resources and organizations that all have to be in the right place at the right time.

A similar situation could be found in educational research at the time the Cooperative Research Act was first passed less than 15 years ago. There were a few individuals committed full time to educational research, most of this research was done after hours and almost as a hobby. There were few research organizations designed that could employ the diversity of talent that could carry out complex research and development tasks over an extended period of time. There were few or no procedures to field test new approaches, only university laboratory schools that were occasionally available in some of the larger universities. There were no organized training programs to prepare specialists in research skills; most researchers were trained in other disciplines such as psychology or sociology. The very complex products and outcomes that were demonstrated before this committee last week on individually-prescribed instruction and mathematics instruction through TV were not accidents or coincidences. They required trained personnel, research organizations committed to specific tasks over a long period of time, and involved, complex relationships with field test situations to try out new materials, plus a body of basic research upon which to build specific applications. During the first 5 or 6 years of funding from the Federal level, most of the efforts went into small research studies necessary because of limited funding and the support of individual investigators. The products of such research were not impressive in the scientific sense. What it did accomplish as a secondary result was to establish a research tradition in colleges of education and, in some instances, in school systems where no such tradition existed before. This has had profound effects, and will continue to have profound effects over a long period of time; for a research tradition means questioning, examining, measuring, seeking new ways; it means taking very little for granted and that is the kind of attitude which should infuse a dynamic educational program.

A second phase began with larger funding started by the Elementary and Secondary Education Act in 1965. It is rather critical in viewing educational research to understand that over 80 percent of the research money from the Office of Education has been appropriated in the last four years so it was at this point that the development of research organizations began with the establishment of research and development centers and regional laboratories. The establishment of these organizations represented a major change in policy and the recognition that mere information alone was not going to modify educational practice. What was required were organizations which could carry through the complex research, development, field test, demonstration, and dissemination activities. To do this required time, personnel resources and funds. If there has been any consistent error or problem thread running through all of this activity of a decade and a half, it has been the tendency to underestimate the amount of time and money required to produce a viable educational program or product.

A third phase could be identified with the development of organizations with differentiated responsibilities such as the two policy centers that attempt to project future trends in education and a national laboratory in early childhood education that acts as a coordinating center for six centers scattered throughout the country. During this phase the organizations have sought to find a distinctive role for themselves and to establish themselves as productive entities. Meanwhile, we continued our efforts in fundamental research support so that scholars could continue to produce more fundamental knowledge.

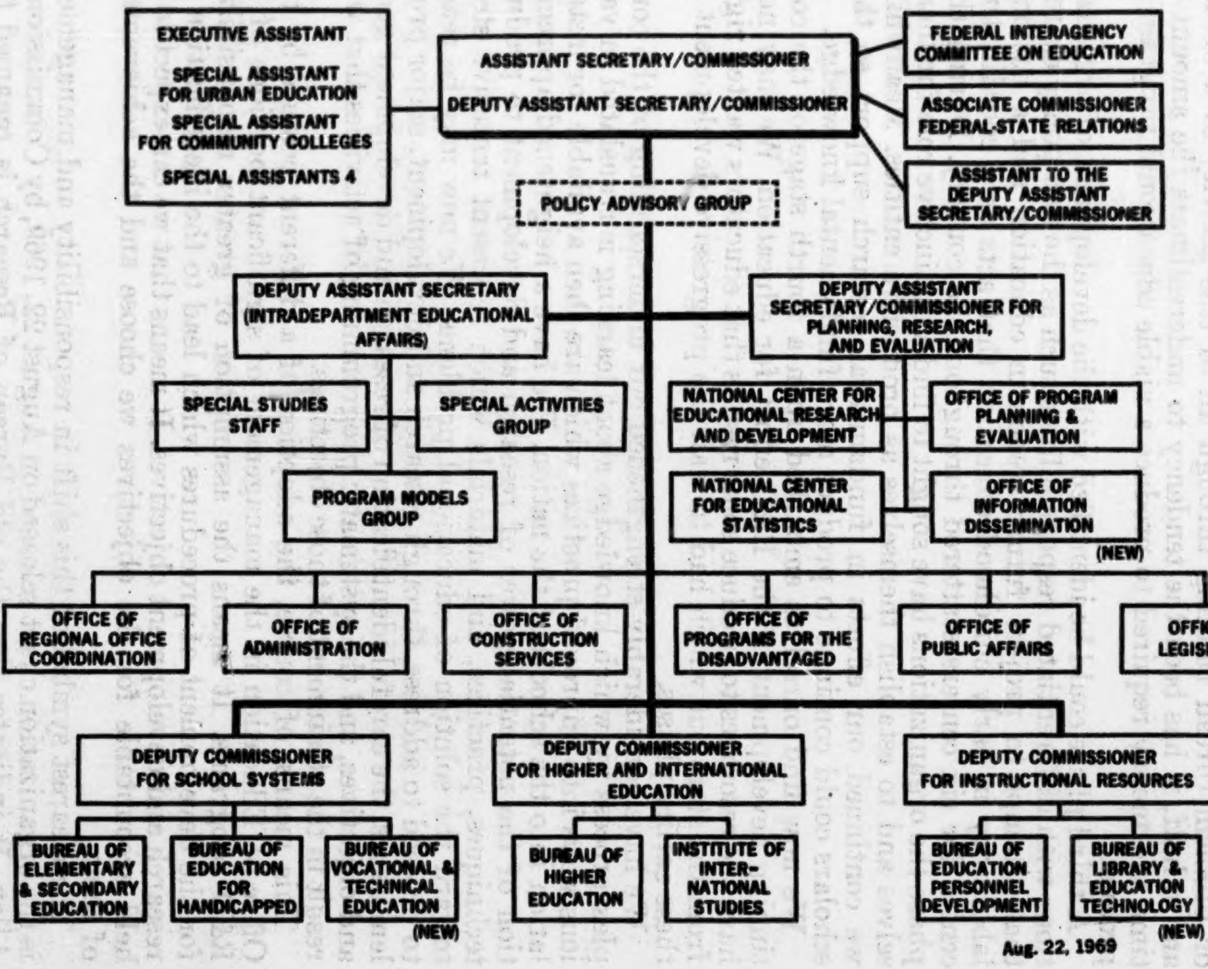
We now find ourselves embarked upon a fourth stage of the continuing development of the R&D effort for education. We may now have the resources to produce some results that educators wanted right from the start but which had to wait the progressive development of these earlier phases.

We have considerably strengthened our understanding of the complex process by which knowledge about learning is translated in various ways into improved practices which are then available for installation into the schools of the nation. We have a heightened appreciation of the potential power of research and development to produce techniques, practices, and materials which represent tentative steps toward the solution of educational problems. We now may be ready to proceed to address, through research and development, major problem issues, the careful identification of research and development goals and objectives, and the systematic programming of activities that will result in the attainment of those objectives.

This means, of course, the adoption of a different posture by the Office of Education in the management of significant portions of its R&D programs. It means the assumption of greater responsibility for the development of procedures which lead to the identification of research and development objectives. It means that we can expect to be held accountable for the objectives we choose and the achievement of them.

The clearest symbol of this shift in responsibility and management is the organization chart released on August 22, 1969, by Commissioner Allen. It indicates that the old Bureau of Research is renamed the National Center for Educational Research and Development elevated to a staff role under a Deputy Assistant Secretary/Commissioner for Planning, Research and Evaluation and coordinated with the National Center for Educational Statistics, a new Office of Information Dissemination, and the Office of Program Planning and Evaluation. It is our hope that by this combination of activities to strengthen the capacity of OE as a whole, we will be able to identify useful and meaningful R&D objectives, focus the research and development programs and policies more meaningfully, and move productively toward the achievement of those objectives.

OFFICE OF EDUCATION


EXECUTIVE ASSISTANT
SPECIAL ASSISTANT FOR URBAN EDUCATION
SPECIAL ASSISTANT FOR COMMUNITY COLLEGES
SPECIAL ASSISTANTS 4
ASSISTANT SECRETARY/COMMISSIONER
DEPUTY ASSISTANT SECRETARY/COMMISSIONER
FEDERAL INTERAGENCY COMMITTEE ON EDUCATION
ASSOCIATE COMMISSIONER FEDERAL-STATE RELATIONS
ASSISTANT TO THE DEPUTY ASSISTANT SECRETARY/COMMISSIONER
POLICY ADVISORY GROUP
DEPUTY ASSISTANT SECRETARY (INTRADEPARTMENT EDUCATIONAL AFFAIRS)
DEPUTY ASSISTANT SECRETARY/COMMISSIONER FOR PLANNING, RESEARCH, AND EVALUATION
SPECIAL STUDIES STAFF
SPECIAL ACTIVITIES GROUP
PROGRAM MODELS GROUP
NATIONAL CENTER FOR EDUCATIONAL RESEARCH AND DEVELOPMENT
OFFICE OF PROGRAM PLANNING & EVALUATION
NATIONAL CENTER FOR EDUCATIONAL STATISTICS
OFFICE OF INFORMATION DISSEMINATION
(NEW)
OFFICE OF REGIONAL OFFICE COORDINATION
OFFICE OF ADMINISTRATION
OFFICE OF CONSTRUCTION SERVICES
OFFICE OF PROGRAMS FOR THE DISADVANTAGED
OFFICE OF PUBLIC AFFAIRS
OFFICE OF LEGISLATION
DEPUTY COMMISSIONER FOR SCHOOL SYSTEMS
DEPUTY COMMISSIONER FOR HIGHER AND INTERNATIONAL EDUCATION
DEPUTY COMMISSIONER FOR INSTRUCTIONAL RESOURCES
BUREAU OF ELEMENTARY & SECONDARY EDUCATION
BUREAU OF EDUCATION FOR HANDICAPPED
BUREAU OF VOCATIONAL & TECHNICAL EDUCATION
(NEW)
BUREAU OF HIGHER EDUCATION
INSTITUTE OF INTER-NATIONAL STUDIES
BUREAU OF EDUCATION PERSONNEL DEVELOPMENT
BUREAU OF LIBRARY & EDUCATION TECHNOLOGY
(NEW)

Aug. 22, 1969

As some of the first steps towards achieving some of these objectives, we have done the following:

1. Revised our advisory structure in the research effort to provide more efficient advice on a policy level.
2. Are assembling a blue ribbon panel to aid us in the development of a comprehensive and long-range plan for OE evaluation.
3. Held initial meetings to discuss planning strategies for investigating a wider responsibility in the dissemination of valid practices.
4. Are consulting with other agencies on the internal design and operation of our research and planning efforts.
5. Instituting management review procedures to see what changes in function and structure will be needed to accomplish our new objectives.
6. Seeking key persons to fill the important leadership positions in the National Center, in OPPE, and in the new Office of Information Dissemination.

I can illustrate this new intention by referring to Commissioner Allen's recent call for a nation-wide goal relating to reading. While this first year is very much of a planning effort, as the Commissioner pointed out yesterday, it is certain that research and development will be called upon to play an important role. There are a number of activities underway which illustrate the range of activities involved and the different tactics which might be employed by research and development.

For example, we are in the midst of exploring the usefulness of a formalized research planning and management system called the Convergence Technique which has been developed by Lewis Carrese and Carl Baker in formulating research programs in electronics and the biomedical sciences. The techniques involve the collection of a small group of six to nine individual experts embracing the research and development capabilities required in developing an understanding of the area in question and bringing them together in a planning session designed to produce five key elements. These include: (a) the final goal to be achieved by the program, (b) the intermediate goals necessary to achieve that final goal, (c) either sequence by which intermediate goals logically lead to the final goal, (d) the research needed to achieve each intermediate goal, and (e) the criteria which must be met in order to conclude that each intermediate goal has been achieved.

The second step is then to construct a chart to show these five elements identified. The chart is then used for program management decisions on specific research projects to be undertaken and a systematic movement through consecutive phases. The convergence charts are continually updated as the research program progresses and new information is generated. At this moment, a five-week planning session is being held involving experts in reading research design, psycholinguistics, systems analysis, research management, and appropriate biomedical sciences to complete the development of a convergence chart on reading. Hopefully, this chart can be used as a basis for a directed program aimed at developing the knowledge base about reading and, in the years ahead, serve as the foundation for new departures in curriculum content and technique.

Of course, basic research in reading which tells us how the child learns is not enough. What has to be done is to organize and use such knowledge to build sequences of experiences, each one important because it relates to the experience that comes before and the one that comes after. This requires careful developmental work, field testing, and analysis in order to produce valid results. The regional educational laboratories represent one resource because of their diversified staff and continued funding that can provide a commitment of the necessary period of time to carry out these complex activities. A few examples of what is going on already might be helpful.

In the Center for Urban Education in New York there is an early reading experiment which involves evaluation of various reading approaches to urban disadvantaged children in the hope of developing the most effective early reading teaching methods for these children. This is a study that is underway but will not be completed until 1971.

At the Northwest Regional Education Laboratory, reading and language development work is producing reading materials for Indian children. There are Alaskan readers being produced with student workbooks, story books, teacher manuals, and supplementary teaching materials. The fully evaluated materials will be available in 1871 but field testing has already begun with first graders in 17 Alaskan villages in schools operated by the Bureau of Indian Affairs. In the Southwest Education Development Laboratory, curriculum materials have been developed to teach the basic skills that are needed as a foundation for reading to many Mexican-American and Negro-American children coming from economically disadvantaged homes. These children often do not understand basic time and number concepts which are necessary for later educational development. The laboratory in Albuquerque is developing curriculum materials, teacher instruction, and parent education programs for a complete program for children ages 2 through 5. The materials for children ages 3 and 4 are being tested now and have already been field tested initially involving 31 teachers and over 500 students in the Forth Worth and San Antonio Public Schools.

Finally, we have the lab in the St. Louis area which provides materials for children that have specific learning disabilities. Here again, the emphasis is on providing materials for the teacher and for the parent for controlling behavior and motivation without specialist supervision. These are for youngsters who are hyperactive, who have specific behavior problems or learning problems. In short, they are not ready to learn and it is this readiness in learning that we are trying to promote here. This pilot version is being pretested in St. Louis Public Schools, and through a program in Chattanooga, Tennessee, and the Washington University Preschool Laboratory.

These are a few examples of programs that have not been finished, unlike the largely completed programs you saw last week. They are in an earlier stage of development, but in 1970 or 1971 all of these programs will be coming to some degree of fruition. It will be tempting to try and hurry these up, and to some extent it may be possible to move them along faster, but not to any great degree. What is more important are decisions on what combination or mix of basic research, development, demonstration, and dissemination efforts will bring the best output.

We have put out a summary of efforts in reading through our dissemination program so that teachers and administrators would have an easy to read (free from research jargon) document that keeps them up to date on current practices. This pamphlet is distributed through

PREP (Putting Research into Educational Practice) SEA kits and is reaching educators in every State.

We have some internal committees working now on the survey of our current efforts in reading and making some tentative judgments on how best to allocate resources to achieve a coordinated program. Before a final decision on this matter is made, we will call on our outside advisory groups to help. Always making some allowance for Murphy's Law, we hope to zero in on major priority programs such as reading so that planning, evaluation, and dissemination efforts become a part of a single directed effort. We must still continue nondirected and unsolicited efforts at the same time. The researcher is a free spirit and often does not want to be tied to a specific mission, nor should he be. His wisdom and foresight in choosing important problems may provide unexpected and unpredictable benefits. His judgment in the end may even transcend the wisdom of Federal bureaucrats seeking to solve specific problems.

STATEMENT OF JAMES E. ALLEN, JR., ASSISTANT SECRETARY FOR EDUCATION AND U.S. COMMISSIONER OF EDUCATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

October 8, 1969

I appreciate this opportunity to discuss matters of deep concern to our nation in the field of education.

We face many problems, the solutions to which are enormously complex and difficult—problems of—

learning how to educate deeply deprived children;
eliminating deficiencies in reading and in other basic skills;
bringing about drastic improvement in the structure, administration, and management of our educational system;
improving vocational education—in quality and status;
extending opportunities for post-secondary education;
improving the quality of teachers and teaching;
eliminating inequities in educational finance and assuring greater stability and adequacy of fiscal support systems;
doing justice to the children of black, brown, and other minority groups;
eliminating the causes of student unrest;
maintaining the freedom and diversity of our educational enterprise;
raising generally the quality of our educational programs and institutions;

These are but a few of the issues and problems confronting education in our nation. Time and your patience do not permit me to discuss all of them on this occasion, but I hope that in the weeks and months ahead there will be opportunities to do so before this committee and other congressional committees concerned with education.

I would like to bring officially to your attention one of these problems, so grave in its import for our nation that it must, in my judgment, receive immediate attention. I refer to our failures in the teaching of reading—a failure which can no longer be tolerated.

THE RIGHT TO READ—TARGET FOR THE SEVENTIES

In an address before the annual meeting of the National Association of State Boards of Education, I called upon the educational and lay leaders of America to join me in a nation-wide effort to see to it that by the end of the 1970's no boy or girl shall be leaving our schools without the skill and the desire to read to the full limits of his capability.

I would like to reiterate some of the points I made there and then go on to some of the things we are proposing to do in this effort.

Imagine, if you can, what life would be like if you could not read, or if your reading skill were so meager as to limit you to the simplest of writings, and if for you the door to the whole world of knowledge and inspiration available through the printed word had never opened.

For more than a quarter of our population this is true. For them education, in a very important way, has been a failure, and they stand as a reproach to all of us who hold in our hands the shaping of the opportunity for education.

These individuals have been denied a right—a right as fundamental as the right to life, liberty, and the pursuit of happiness—the right to read.

Education has come to mean many things and to encompass a wide range of information and experience, but certainly it must still include, as it did in the beginning, the ability to read.

Those who do not gain this ability in the course of their early education lack a skill necessary to all other areas of learning and are being denied a fundamental educational right—the right to read.

From a variety of statistical information accumulated by the Office of Education regarding reading deficiencies throughout the country, these shocking facts stand out:

> One out of every four students nation-wide has significant reading deficiencies.
>
> In large city school systems up to half of the students read below expectation.
>
> There are more than 3 million illiterates in our adult population.
>
> About half of the unemployed youth, ages 16–21, are functionally illiterate.
>
> Three-quarters of the juvenile offenders in New York City are two or more years retarded in reading.
>
> In a recent U.S. Armed Forces program called Project 100,000 68.2 percent of the young men fell below Grade 7 in reading and academic ability.

The tragedy of these statistics is that they represent a barrier to success that for many young adults produces the misery of a life marked by poverty, unemployment, alienation, and, in many cases, crime.

It must be recognized also, however, that for the majority who do not acquire the basic reading skills, there can also be a barrier which limits the fulfillment of their right to read. This barrier exists when the skill of reading is not accompanied by the desire to read. We fail, therefore, just as much in assuring the right to read when the desire is absent as when the skills are missing.

It is inexcusable that in this day when man has achieved such giant steps in the development of his potential, when many of his accomplishments approach the miraculous, there still should be those who cannot read.

It is my view, therefore, that there is no higher nation-wide priority in the field of education than the provision of the right to read for all, and that the Office of Education and the Department of Health, Education and Welfare can do no greater service for the cause of education than to spearhead a nation-wide attack to eliminate this failure of our education effort.

It is my belief that *we should immediately set for ourselves the goal of assuring that by the end of the 1970's the right to read shall be a reality for all—that no one shall be leaving our schools without the skill and the desire necessary to read to the full limits of his capability.*

This is education's "moon"—the target for the decade ahead. With the same zeal, dedication, perseverance, and concentration that made possible man's giant step of last July 20, this moon too can be reached.

I chose to set forth this target at the meeting of the National Association of State Boards of Education because State boards bear the responsibility for shaping basic educational policies for the primary and secondary schools of our nation. The responsibility for the provision of educational opportunity, traditionally and legally, rests with the States. The public education system of our nation has developed on the premise that education belongs to the people and its control shall be in the hands of lay boards. It is State boards, therefore, that have the original responsibility and authority, within the framework established by their respective legislatures, for the setting and enforcement of standards and for the evaluation of performance. It is they also who must be accountable for educational stewardship within their respective States. They are at the center of any effort to raise the level of achievement in our educational system.

In asking State boards of education to accept the obligation of ensuring that every child in our nation will learn to read, I have requested that each State begin immediately to consider how this goal can be achieved, to assemble resources, to plan, and to report to me what actions have been taken under State leadership so that the school year 1969–70 can be recorded as the year when we set in motion the nation-wide effort that will erase this intolerable deficit in American education.

State boards are, of course, not alone in this responsibility, for it falls also upon all those who participate in the administration and operation of the educational enterprise. Therefore, in presenting the challenge of this target to State school boards I am also presenting it to groups such as the Education Commission of the States, the Council of Chief State School Officers, State education departments, local school boards and their staffs, the American Association of School Administrators, the National Education Association and the American Federation of Teachers and their State and local affiliates, the National Congress of Parents and Teachers, students and their organizations—indeed, to all individuals and organizations comprising the total educational endeavor of our nation. Essential also, of course, will be the intensive participation of the colleges and universities and their schools of teacher education.

But to hit the target by the end of the seventies, to achieve a goal of such enormous dimensions, involvement will have to reach far beyond the forces of education.

Necessary will be the committed participation and support of the Congress; State and local political leaders and legislative bodies; business, industry, and labor; civic and community groups; publishers; advertising organizations; television, radio, and the press; research and scientific organizations; foundations; the entertainment industry; the sports world; and perhaps, most essential of all, the understanding and support of an enlightened and enthusiastic public. In other words, *I am calling for a total national commitment to and involvement in the achievement of the "right to read" goal.*

While the main task of carrying out the activities necessary to achieve the goal of the right to read for all by the end of the seventies will fall upon the States and localities, the Federal government has a vital supportive role to play. It is not the role of the Federal government to make specific plans, nor to prescribe the programs and methods to be used. The diverse needs and conditions of the various States and their communities require the flexibility of approach that our decentralized system makes possible. The main contribution that can be made at the Federal level will be the coordination of the effort, the marshalling of forces and resources on a nation-wide basis, and the provision of the technical, administrative, and financial assistance required, all done in a spirit of total and fervent commitment.

Some significant steps already have been taken by the Office of Education which will have impact on our national Right to Read goal. We are focusing a significant portion of our research and development resources on the reading problem. These efforts can be divided into five major sets of activities.

One emerging long-range effort, for which we have high hopes, is the application of planning procedures developed in the National Cancer Institute, the purpose of which is to concentrate an attack on a specific problem. This convergence technique is now being used to develop a clear map of what is known about the process of reading. This map will provide us with a guide to target research dollars to a greater understanding of the reading process.

A second research project will focus in Fiscal Year 1970 on the development of operational models for bilingual learning with particular emphasis on Mexican-American and inner-city children.

A third approach to reading is found in the Children's Television Workshop supported by the Office of Education in cooperation with private foundations and other Federal agencies. The project is aimed at the development of cognitive skills in preschool children with the emphasis on language development and prereading skills.

The fourth and fifth major program efforts in reading and language development are to be found in the Regional Educational Laboratories, the National Laboratories on Early Childhood Education, and the Office of Education-supported Research and Development Centers. More than 40 percent of the activities of these institutions is devoted to research and development on language learning and other basic skills areas. The laboratories are currently working on 11 different kinds of instructional systems designed to aid all elementary school students, but particularly disadvantaged young people in the mastery of basic reading, writing, listening, quantitative, and problem-solving skills.

The total Office of Education investment in Fiscal Year 1970 for all of these programs is over $16 million.

The decade of the seventies will see the 200th anniversary of our nation. A most appropriate celebration of that event—a celebration that would honor the true spirit of the democratic concept, and recognize the fundamental importance ascribed to education from the beginning of our nation—would be to secure for all of our citizens that right to read which so long ago made possible the feasibility of a democratic society and continues to undergird its strength.

The importance which is attached to this goal by the Administration is highlighted by the announcement that Mrs. Richard M. Nixon, our nation's First Lady, would serve as honorary chairman of a Citizens' Committee on the Right to Read, which will lead this effort. I am most grateful that Mrs. Nixon, a devoted mother and former teacher, has accepted leadership for what I consider to be one of the most significant efforts in the improvement of our country's schools.

Continuing toleration of the failure to give everyone the ability to read breaks faith with the commitment to equality of opportunity which is the foundation of our public education system. Having arrived at a time which holds forth the possibility of eliminating this failure we must, in all justice, seize the opportunity with the utmost vigor and determination.

Remarkable success has been achieved by our educational system, but so long as there is one boy or girl who leaves school unable to read to the full extent of his capability, we cannot escape the charge of failure in carrying out the responsibility entrusted to us.

STATEMENT OF LEON H. KEYSERLING, CONSULTING ECONOMIST AND ATTORNEY, AND PRESIDENT, CONFERENCE ON ECONOMIC PROGRESS; FORMER CHAIRMAN, COUNCIL OF ECONOMIC ADVISERS, WASHINGTON, D.C.

October 9, 1969

I appreciate this opportunity to discuss the critical issue of the deplorable and deteriorating conditions in so many of our public schools throughout the nation, and what may wisely be done to bring them all up to at least a minimum standard of uniform excellence by 1977. I shall not deal with matters of the subject-content of education, vital though these matters are, because they are beyond the scope of my competence, and perhaps outside the scope of this Committee. But I shall deal with the fundamental issue of devoting adequate economic and financial resources to the task, and what I believe to be the essential role of the Federal government toward helping to make these resources available.

What I shall say here today is based almost entirely upon a study prepared by me and published in December 1968 by the Conference on Economic Progress, but prepared initially at the instance of the American Federation of Teachers, AFL-CIO*. I cannot, within the

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**Achieving Nationwide Educational Excellence: A Ten-Year Plan, 1967–77, To Save the Schools*. Conference on Economic Progress, Washington, D.C., 1968.

time allotted me here today, attempt even a full summary of this study. But I shall refer to it, and especially to the charts within it, as I go along, and I have made copies of the study available to Committee members to facilitate this process.

Although the study runs only through 1967, it is equally relevant today. The fundamental situation has not changed appreciably, and bringing entirely up to date its basic data would not change materially their impact, nor alter appreciably such validity as the program proposals may have.

An important part of the study reviews the recent and current situation in our public schools. Table I shows that 4.6 percent of all those of school age in the public-school population are not enrolled, and that 11.5 percent of those aged 16–17 are not enrolled. It reveals that the nonparticipation rate ranges from virtually zero in three of the eight regions of the country to 4.8 percent in the Southwest and 9.0 percent in the Southeast. Table II sets the goal of 100 percent participation throughout the nation by 1977 involving an increase from 1967 ranging from 2.3 percent in the Far West to 13.9 percent in the Southeast.

Table III, taking into account increased enrollments, and designed to reduce the pupil-teacher ratio from 24 to 1 in 1967 to 20 to 1 in 1977, shows for 1967–1977 a needed nation-wide increase in teachers of 27.8 percent, ranging from 12.9 percent in the Plains region to 46.3 percent in the Southeast.

Table IV depicts correlative goals for increases in nonteacher instructional staff. The goals, combined with the goals for teachers, involve a pupil-teacher total instructional staff ratio of 12 to 1 by 1977.

Tables V, VI, and VII depict as of 1967 the deplorably low absolute and relative salary position of public school teachers in general. While significant gains have been made since then, these have only scraped the surface of the problem. Table VIII is pointed toward the goal of a minimum uniform nation-wide standard of pay for all public school teachers of $10,711 in 1977, contrasted with $6,830 in 1967. This will require greatly varying average annual rates of increase among the different regions. These figures are all in 1967 dollars; increases in the cost of living, to date and prospective, will require corresponding lifts in the dollar goals.

There is need for construction of 1,232,000 classrooms during 1968–1977, to take care of increased enrollments and reduced class size, to eliminate unsatisfactory conditions, and to provide for replacement for migration and abandonment.

Table IX, again using 1967 dollars, and taking into account the goals for teacher salaries, other instructional salaries, increases in personnel, other current outlays, capital outlays, and interest on school debt, indicated that total outlays for our public schools should increase from $28.3 billion in 1967 to $70.1 billion by 1977. This involves a nation-wide average annual rate of increase of 9.5 percent. Under the approach for sharing this increase between the Federal government and the States and localities which the study finds as preferable, designated as Method Two, State and local outlays would increase at an average annual rate of 5.1 percent, and Federal outlays at an average annual rate of 28.0 percent. Even so, in 1977, State and local outlays would be 61.1 percent of the total, and Federal outlays only 38.9 percent.

Tables X and XI indicate the basic reasons why Federal participation needs to become so large. They show that, in the main, State and local efforts have been limited by relative economic and financial resources, and not by lack of will to do better.

Table XII spells out in detail the varying rates of increases proposed in Federal and State and local outlays for each of the eight regions, by dollar amounts and by percentages. These regional portrayals are synopses of my detailed projections, State by State. The average annual needed increase in total outlays, from 1967 to 1977, measured in 1967 dollars, ranges from 6.6 percent in the Far West to 13.3 percent in the Southeast. The projected average annual increases in State and local outlays range from 3.6 percent in the Southwest to 5.9 percent in the Far West. The needed average annual increase in Federal outlays ranges from 15.2 percent in the Far West to 35 percent in the Great Lakes region.

The question may properly be raised at this point as to how this study differs from other studies on the same subject. With respect to depiction of recent and current conditions, there is not and cannot be much difference. With respect to the overall goals for increases in school facilities and school personnel, there is not or should not be very much difference. But there is great difference as to the proposed allocation of responsibility between the Federal government and the States and localities in general, and in the allocation of responsibility among the various States and localities. I suggest without pride that this may result from the fact that this study is the first one which, on a thoroughly comprehensive basis, grapples with the problem of the vast differences in resources among the different States and localities, coupled with the unchallengable fact that the children in our public schools throughout the nation should not be victimized perpetually, not even during the next decade, by these tremendously varying capabilities.

While this last proposition is generally recognized, most of the formulae for increased Federal aid to education, emanating from many sources, do not really get to the heart of the problem of educational equalization in the public schools. Some of them are too closely wedded to standard formulae for Federal aid, which are either outmoded or not properly adjusted to the public school problem. Some other formulae have relied too heavily upon the relative populations of the States as at least a partial guide to the Federal aid they should receive. Manfestly, this does not take appropriate account of the fact that population provides no guide to relative resources. Some of the formulae have attempted to bring to bear the relative amount of poverty in different areas. But aside from the fact that most aspects of dealing with poverty should proceed independently of the treatment of our public schools, there is a surprising lack of correlation between the concentration of poverty and the general economic and financial capabilities of the various areas. *Per capita* income in Washington, D.C. is almost uniquely high, but there is a greater concentration of poverty than in the nation at large. New York and some of our other very large cities are relatively rich, although the concentration of poverty is exceedingly high in most such cities.

I have wrestled long, and I hope conscientiously, with the problem of how basic minimum equalization of the treatment of all of our children in the public schools of our nation may most soundly and equitably be obtained. Perhaps my basic philosophic or policy point of departure from any other suggested formulae is my profound conviction that analysis of the entire problem *should start with the child in the public school, and not anywhere else.* My fundamental approach to the minimum nation-wide standard to be achieved by 1977 is that the same number of dollars should be spent on the average for each child in the public schools in every region and State throughout the nation. If this proposition is accepted, most if not all of the other formulae which have been advanced are manifestly and seriously deficient. Nor do I see how this approach can be seriously challenged. The child is an asset of the entire nation, no matter where he or she lives, and nobody can know where he or she may live and work in the years ahead. Deplorably deficient educational opportunity, for any child anywhere in the nation, is a burden imposed upon the whole nation, and also an indictment against the whole nation.

Once this proposition is accepted, it provides what I regard to be a superior guideline for the widely diverse Federal contributions to the various regions, or rather to the States within them, which my study recommends. In this connection, the very first issue to be resolved is how much the various States and localities should be required to do. For once this is properly established, the needed Federal contributions result ineluctably.

The problem of how much the various States and localities can and should do for the children in their public schools is infinitely complex. Different States and localities have not only vastly different economic and financial capabilities, but also vastly different patterns of competing needs and priorities. One could study forever, and argue forever, about the ideal or perfect formula for dealing with this problem and never arrive at a course of action. Taking all factors into account, I reach the conclusion that, as a condition of the needed Federal aid, each State should be required to increase its annual outlays for its public schools at the rate maintained during 1961–1967, lifted by the percentage amount (estimated by my study) that the average annual rise in total national production throughout the nation during 1967–1977 should exceed the average during 1961–1967. The actual adjustments in practice should be based upon the national performance as observed from year to year, rather than upon my projections. This approach yields the required levels of increased outlays by each State, to be supplemented by Federal aid in the amounts needed to achieve by 1977 the minimum standard of uniform outlays *per pupil.*

I recognize that both realistic and captious criticism may be made of this formula, and it may be shown not to work out perfectly in all instances. No formula will work out perfectly. But this is a formula which I think will work out much better than any others which I have examined. It is based upon the thesis, which I believe to be sound, that our nation and our Federal government should recognize that the States thus far have not been delinquent on the public school front, and that in the main some have advanced faster than others because in the main they have had the means to do so. I do not think it wise, as a long-range policy for the nation or the Federal government, to indict any State on the basis of a contrary assumption, which I do not believe to be sustainable in the main.

Despite all this, I do not propose a straightjacket, to be imposed upon the States and localities. While all would be brought up to the minimum uniform standard of excellence on a *per pupil* basis by 1977, those States which have the resources and the will to go far beyond the performance requirements which I suggest will remain perfectly free to do so. In fact, I believe that those having the capabilities to do so will be forced to do so by various legitimate pressures within their own borders. Some of them, manifestly, are already doing so. But the Federal aid which they will receive will not be reduced as a penalty for their exceptional performance in this respect. Instead, the consequences of the exceptional performance will be that such States and localities will rise above the minimum nation-wide standard, and this I submit is as it should be. This, indeed, is the best incentive they could have.

Nor is it within the scope of my proposals that every locality or every area within a locality should move toward identical expenditures *per pupil*. Here again, I contemplate no straightjacket. Some problem areas may require greater expenditures *per pupil* than others. Still other consideration may validly pertain. It will remain within the discretion of the States which receive the Federal assistance, and also of the localities within these States, to take account of these legitimate factors. But I do not believe that refined variations of this type can be applied to my general approach of how much each State should receive from the Federal government. I believe that attempt at such refinement would lead to losses far outweighing the gains and on both political and other grounds would place excessive discretion within the hands of Federal administrators. To strive for perfection is sometimes to ignore reality.

Nor, in my view, is there merit in the argument that the concept of a minimum nation-wide *per pupil* standard of outlays is defective on the ground that costs vary among the different States. They do vary some, but not nearly so much as is generally supposed; it is rather the standard of living that varies greatly. Moreover, in all of our nation-wide endeavors, and not merely in education, we should seek on a long-range basis to equalize rather than further to distort the relative conditions among our various States, with respect to income, opportunity, and public services. Our Federal government can do much more than it has thus far done to help bring this about. However, as I have already pointed out, differences in costs within a State, or even within localities, could and should be taken into account, in the process of administration at State and local levels.

Another distinctive feature of my study is that it is the only one which has come to my attention that realistically attempts to examine whether we can afford in practical reality to meet the goals set forth. In doing this, I take account not only of our nation-wide economic capabilities and potentials for growth, but also take account of the whole range of our domestic priorities and our international obligations. In short, my goals for the public schools are thoroughly reconciled with equally forward-looking goals for all lines of economic and financial endeavor, both private and public, within the realistic tableau of balanced and consistent projections for GNP and its major components. This aspect of the problem is dealt with fully in Chapter VI of my study. Table XIII projects realistic and balanced goals for

U.S. economic performance through 1977. Table XIV depicts the magnitudes of the "economic growth dividend" which we can enjoy, if we go to work on the job. Table XV shows that my proposals in their entirety do not change significantly the balance between public and private responsibilities.

Most important of all perhaps, Table XVI shows how the proposed increased Federal outlays for education—including a generous allowance for Federal aid to education aside from public school education—are fitted into a long-range Federal budget, growing as the nation's capabilities and needs grow, but not imposing an excessive strain. It should be noted especially, in this connection, that my proposal for all Federal outlays in calendar 1977 comes only to 20.6 percent of the total national production which we should achieve in that year with adequate economic growth, compared with 21.02 percent as estimated at the time of the President's proposed Budget for fiscal 1969.

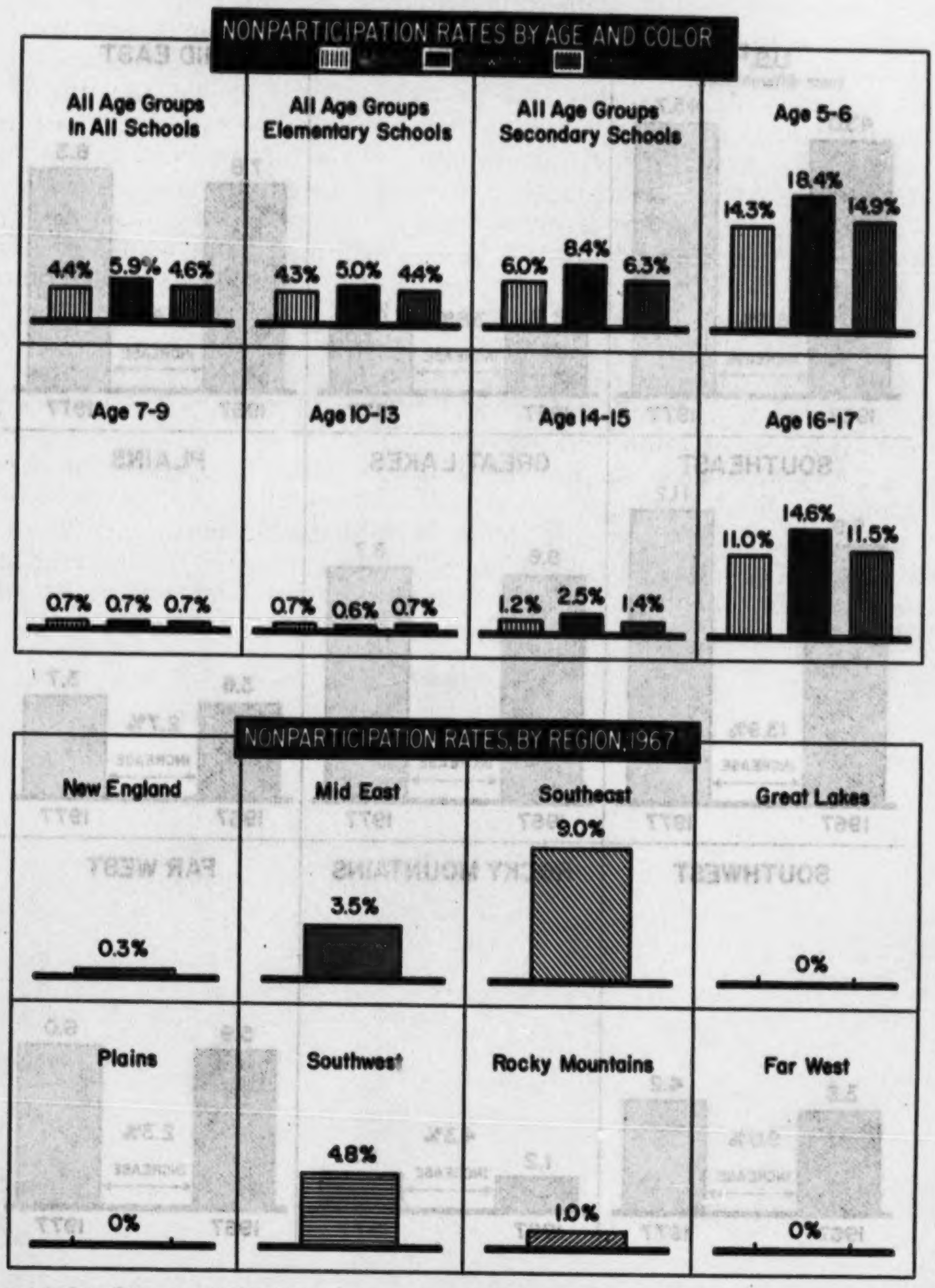
In this context, total Federal outlays for education would rise from $23.16 in fiscal 1969 to $143.79 in calendar 1977, and would rise from 0.53 percent to 2.36 percent of our expanding total national production. The latter ratio can hardly be said to be too high, when one notes that the ratio of Federal outlays for national defense, space technology, and all international programs was estimated at 10.11 percent of our total national production for fiscal 1969, and is projected at 6.73 percent even as of calendar 1977.

I know that this Committee will give these proposals the careful attention which I believe they deserve. I hope that, even if they are not accepted in full, they will make a measurable contribution to the thought and actions of the Congress and the nation, with respect to the towering problem of our public schools—that which no other problem can be assigned a higher priority.

TABLE I

PERCENT OF SCHOOL AGE POPULATION NOT ENROLLED IN SCHOOL

(Nonparticipation Rates)



1/ As of October, 1966. Percentage of population age 5–17 not enrolled in either public or private schools. Nonparticipation rates in public schools not available for detailed age-color groups shown.

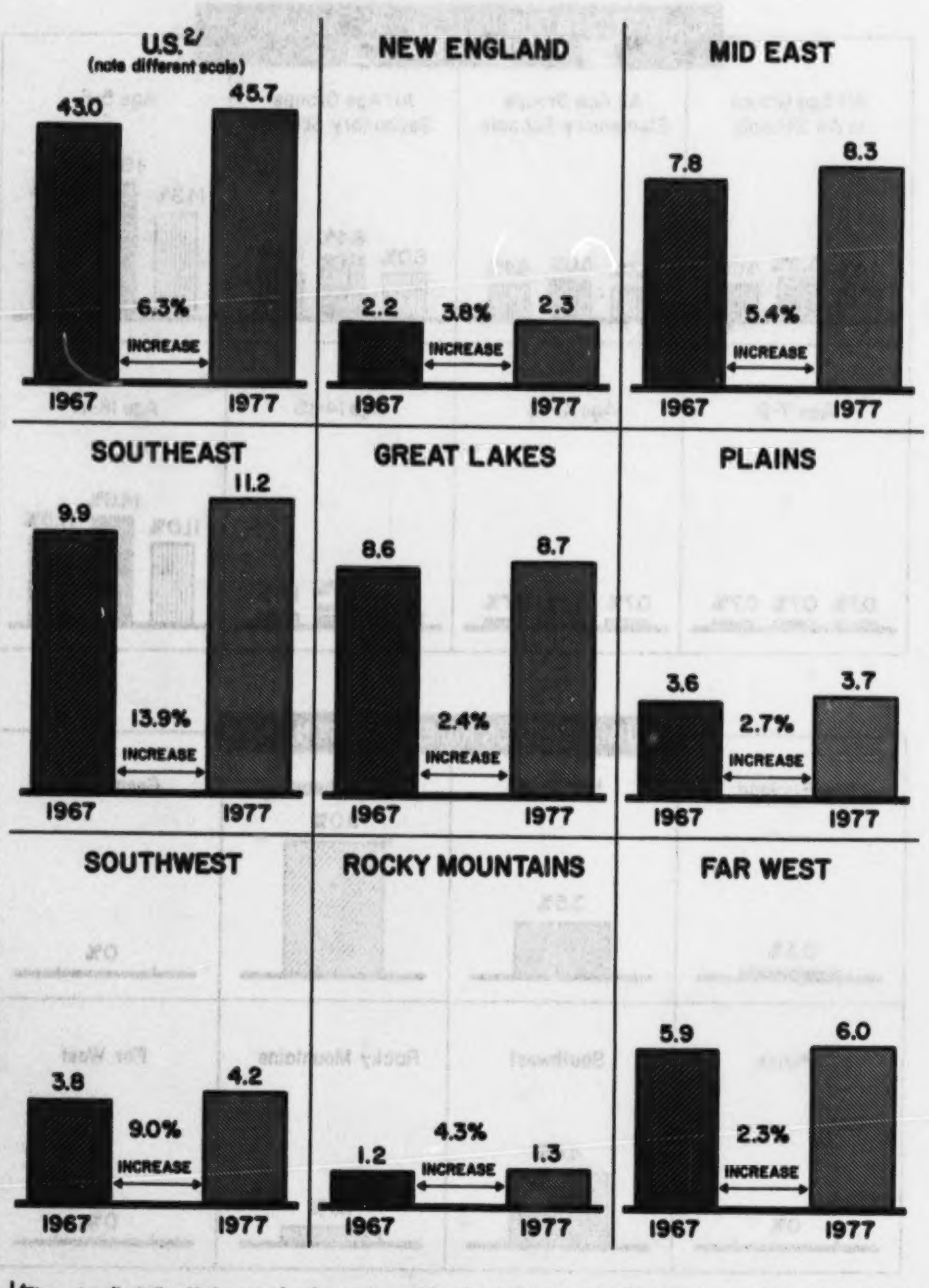
2/ Elementary (including kindergarten) and secondary public schools. School year 1966–1967 shown as 1967.

Source: National Education Association; Office of Education, Dept. of H.E.W.; Bureau of the Census, Dept. of Commerce

TABLE II

ENROLLMENT IN PUBLIC SCHOOLS, 1967 AND GOALS FOR 1977[1]

(Millions)



[1] Elementary (including kindergarten) and secondary public schools. School year 1966-1967 shown as 1967, etc. Goals based upon nationwide enrollment rate of approximately 100% by 1977, for school-age population (5 through 17 years) not in private schools.

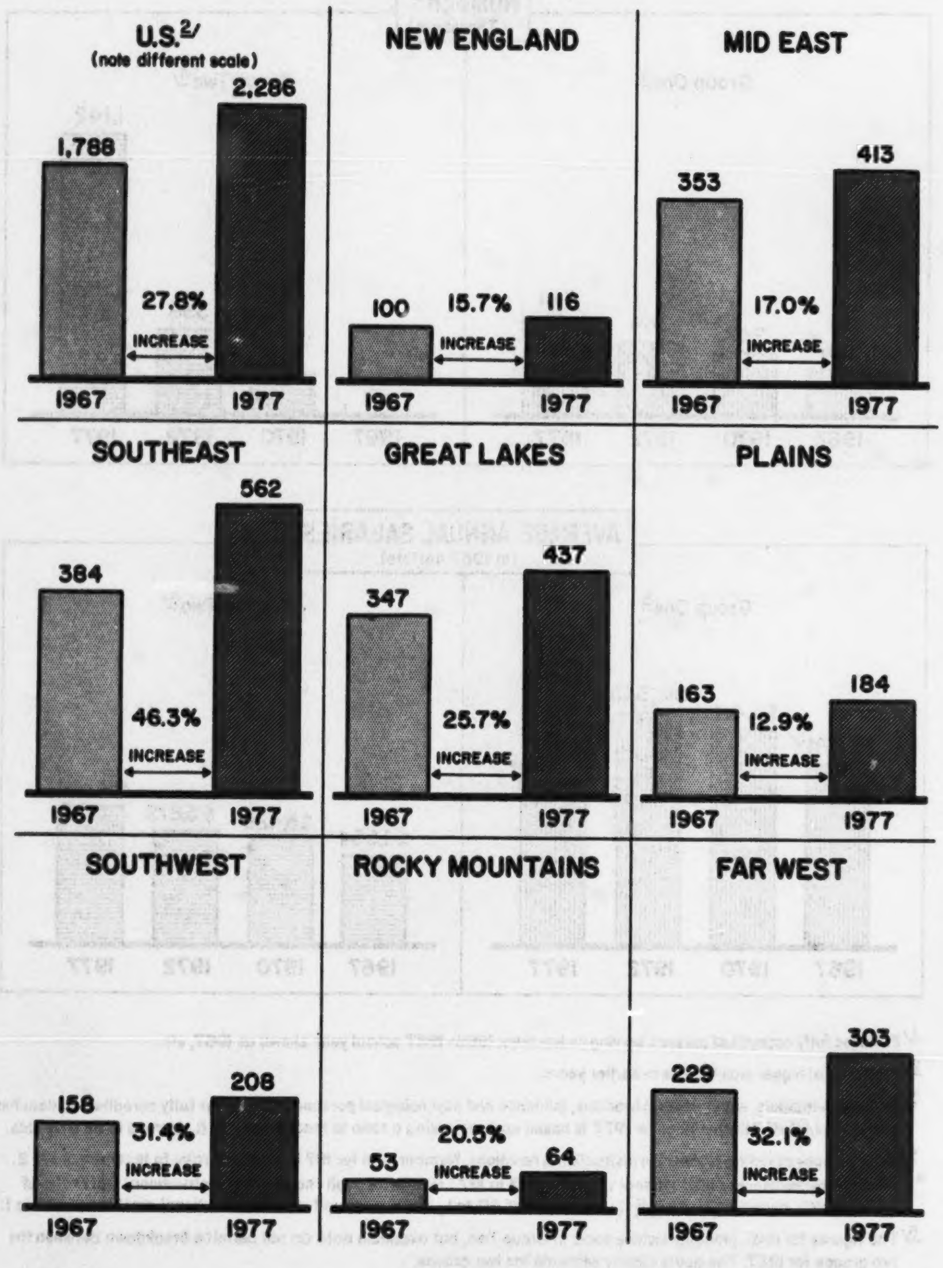
[2] 50 States and D.C. Note: Percent changes based on unrounded numbers.

Basic Data: National Education Association; Office of Education, Dept. of H.E.W.

TABLE III

CLASSROOM TEACHERS IN PUBLIC SCHOOLS, 1967 AND GOALS FOR 1977[1]

(Thousands)



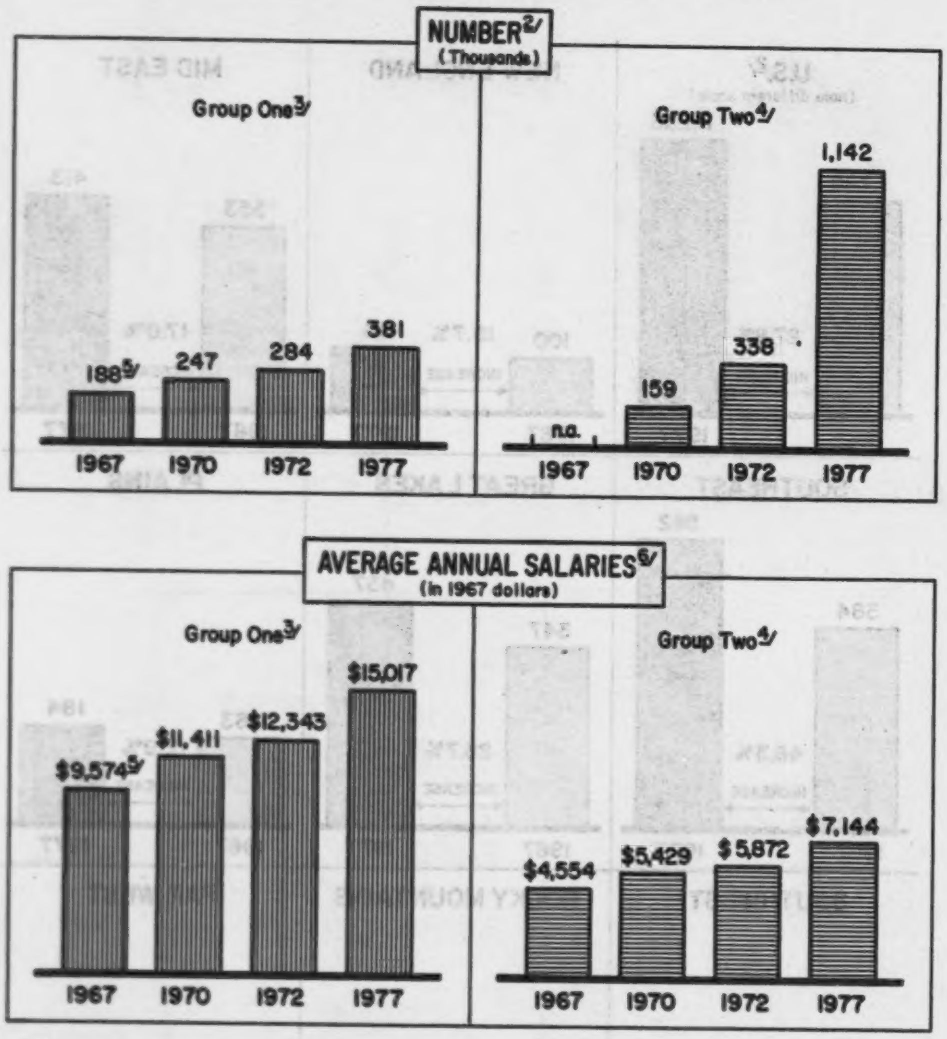
[1] Elementary (including kindergarten) and secondary public school. School year 1966-1967 shown as 1967, etc. Goals for U.S. and regions based upon pupil-teacher ratio of 20 to 1 in 1977, compared with ratios in 1967 of 24.0 to 1 nationwide, and ranging from 22.0 to 1 in the Plains to 25.8 to 1 in the Far West. The concept involved in the goals is fully accredited persons serving as teachers.

[2] 50 States and D.C.

Basic Data: Office of Education, Dept. of H.E.W.; National Education Association.

TABLE IV

NONTEACHER INSTRUCT. STAFF, PUBLIC SCHOOLS,'67 AND GOALS FOR 1970, 1972, AND 1977[1]



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[1] Excludes fully accredited persons serving as teachers. 1966-1967 school year shown as 1967, etc.

[2] Projected at higher growth rates in earlier years.

[3] Includes principals, supervisors, librarians, guidance and psychological personnel, and other fully acredited nonteacher instructional staff. Number goal for 1977 is based upon achieving a ratio to teachers of 1 to 6, deemed to be desirable.

[4] Other persons assisting teachers in instructional functions. Number goal for 1977 involves a ratio to teachers of 1 to 2. A total total nonteacher instructional staff of 1,523 in 1977 involves a pupil-nonteacher instructional staff ratio of 30 to 1 which, coupled with a pupil-teacher ratio of 20 to 1, involves a pupil-total instructional staff ratio of 12 to 1.

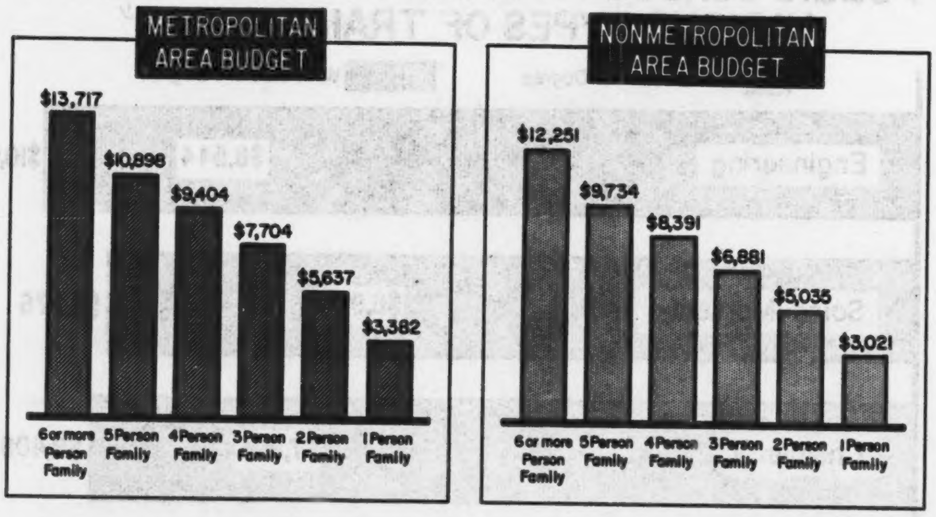
[5] The figures for 1967 probably include some in Group Two, but available data do not permit a breakdown between the two groups for 1967. The goals clearly separate the two groups.

[6] Projected at the same rates of growth as teachers' salaries. (6.0% average annual increase 1967-1970, and 4.0% 1970-1977). The 1967 averages are rough approximations, for reasons set forth in [5] above.

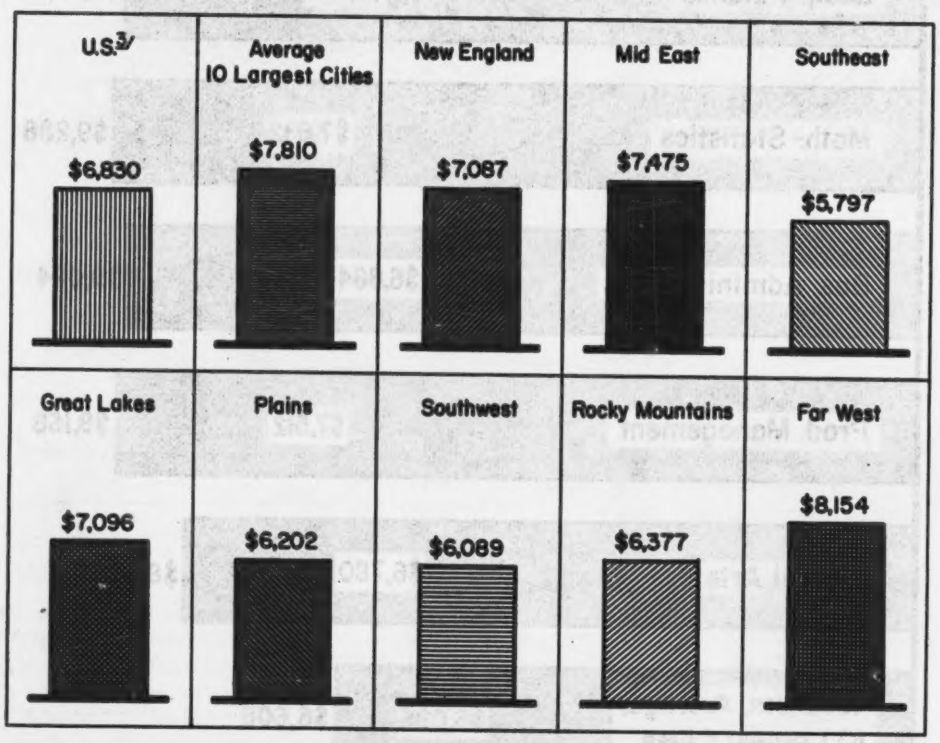
Basic Data: National Education Association; Office of Education, Dept. of H.E.W.

TABLE V

MODERATE STANDARD OF LIVING BUDGET, 1967[1]



AVE. ANN. SALARIES, PUBLIC SCHOOL TEACHERS, 1967[2]



[1] Estimates of B.L.S. for Autumn 1966, adjusted to February 1967 (mid point of 1966-'67 school year) by use of C.P.I. Estimates for families of other sizes based upon B.L.S. indexes for families of relative sizes. Metropolitan areas defined as having populations of 50,000 and over; nonmetropolitan 2,500-50,000.

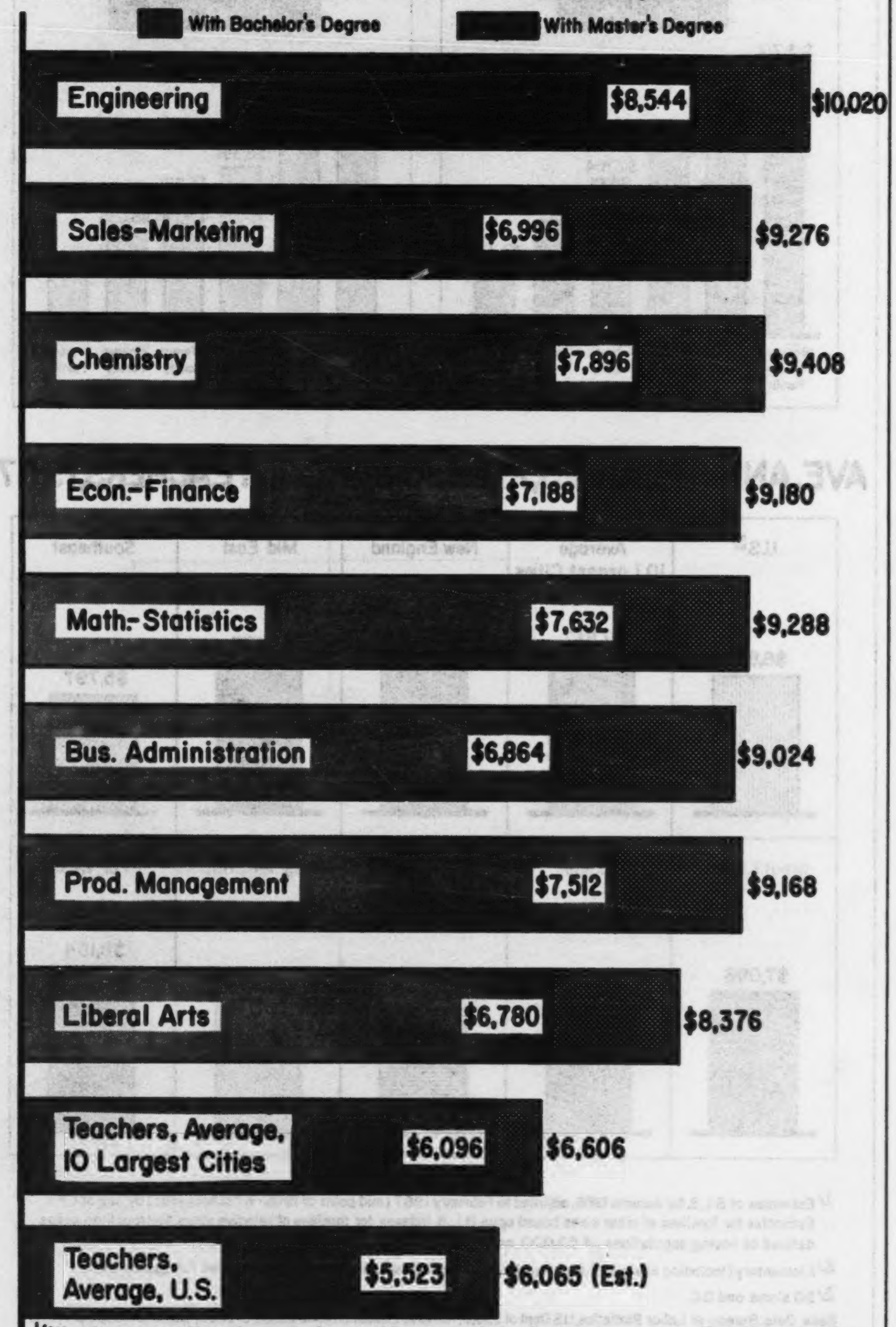
[2] Elementary (including kindergarten) and secondary public schools. School year 1966-1967 shown as 1967.

[3] 50 states and D.C.

Basic Data: Bureau of Labor Statistics, U.S. Dept. of Labor; National Education Association; Office of Education, Dept. of H.E.W.

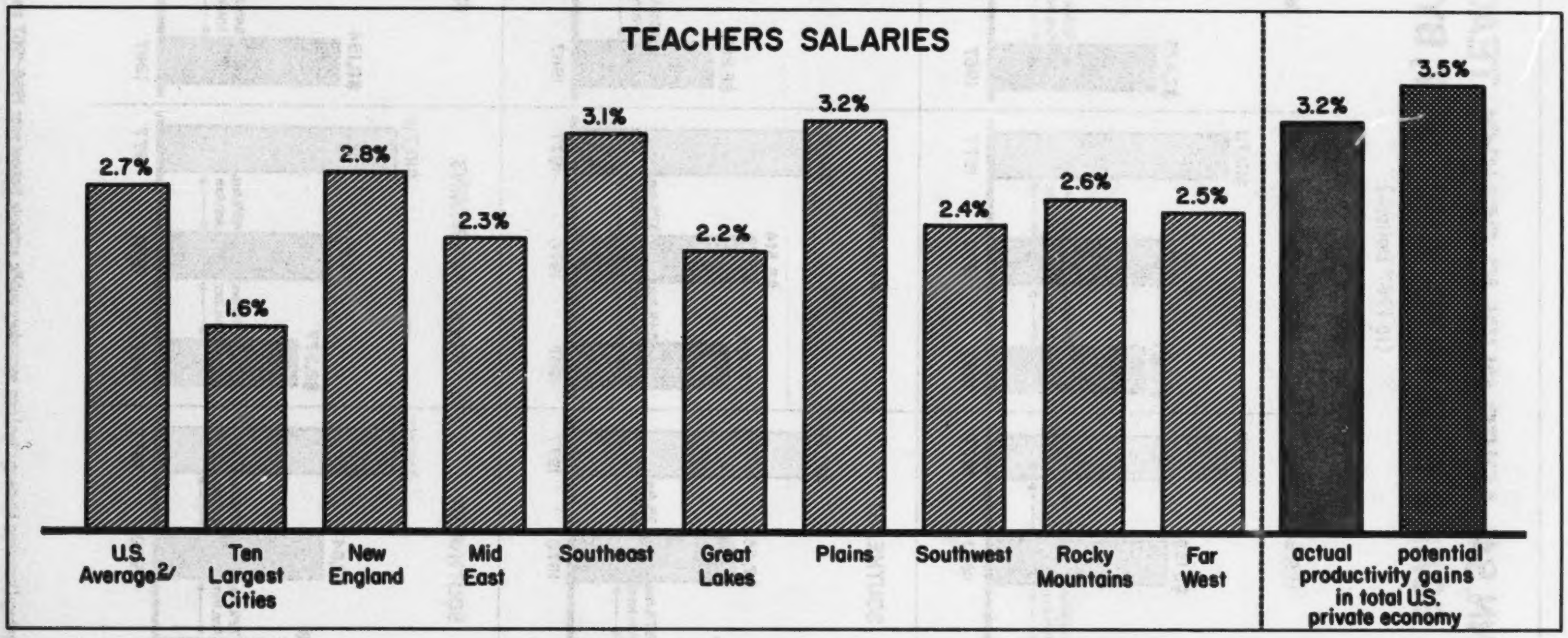
TABLE VI

AVERAGE ANNUAL STARTING SALARIES PUBLIC SCHOOL TEACHERS AND OTHERS WITH VARIOUS TYPES OF TRAINING, 1968[1]



[1] All male except teaching, other professions are U.S. average salaries. Teachers for school year 1967-1968, others for those starting work post June 1967. Source: National Education Association

TABLE VII



TEACHERS' SALARIES HAVE LAGGED BEHIND NATIONWIDE PRODUCTIVITY GAINS, 1961-1967[1]

(Average Annual Change in 1967 Dollars)

[1] School years 1960-1961 through 1966-1967. Productivity, calendar years. Salaries, school years. Elementary (including kindergarten) and secondary public schools.

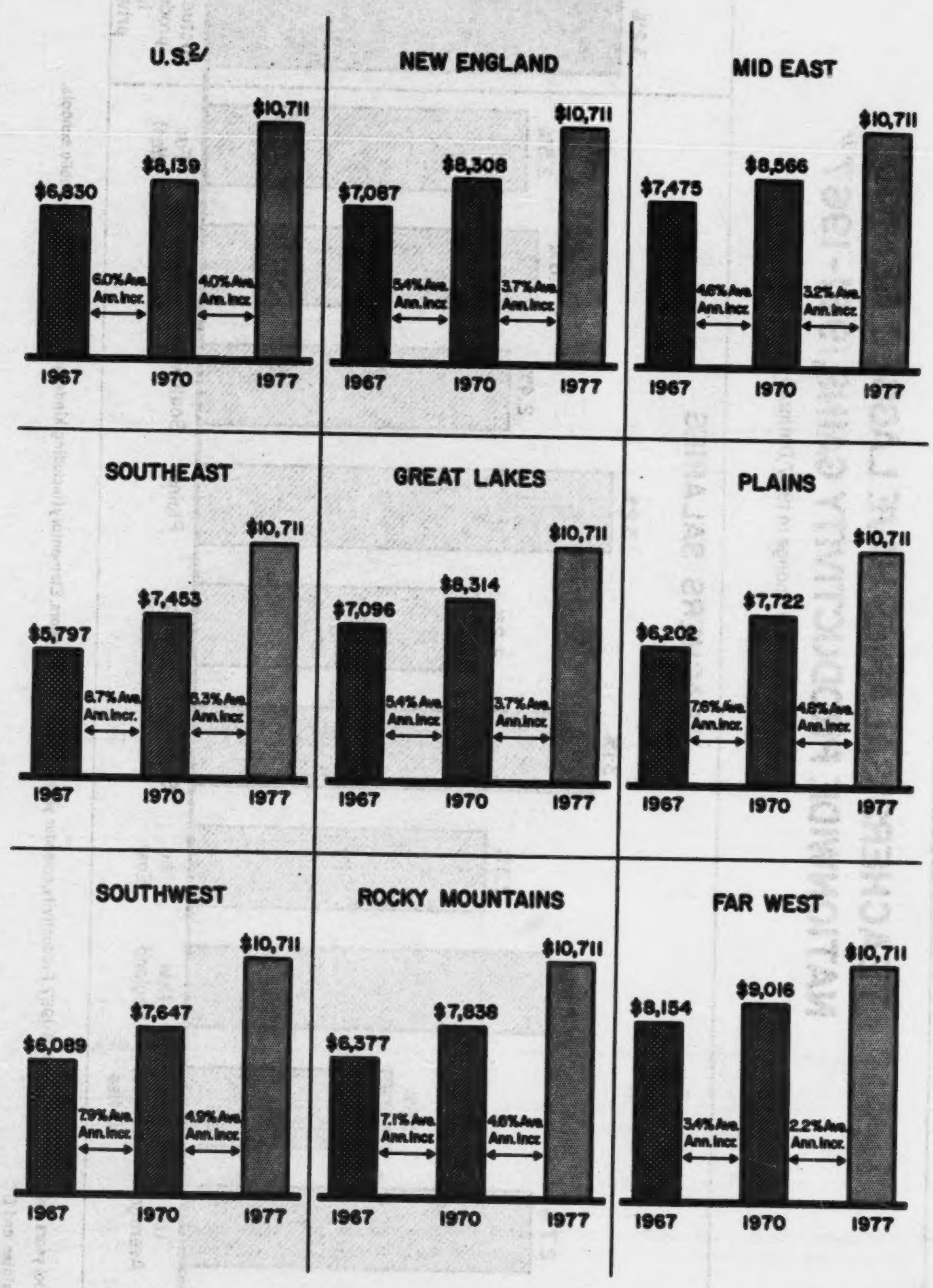
[2] 50 states and D.C.

Basic Data: Office of Education; Dept. of H.E.W.; National Education Association.

TABLE VIII

AVE. ANN. SALARIES, PUBLIC SCHOOL TEACHERS, 1967 AND GOALS FOR 1970 AND 1977, BY REGION[1]

(In 1967 Dollars)



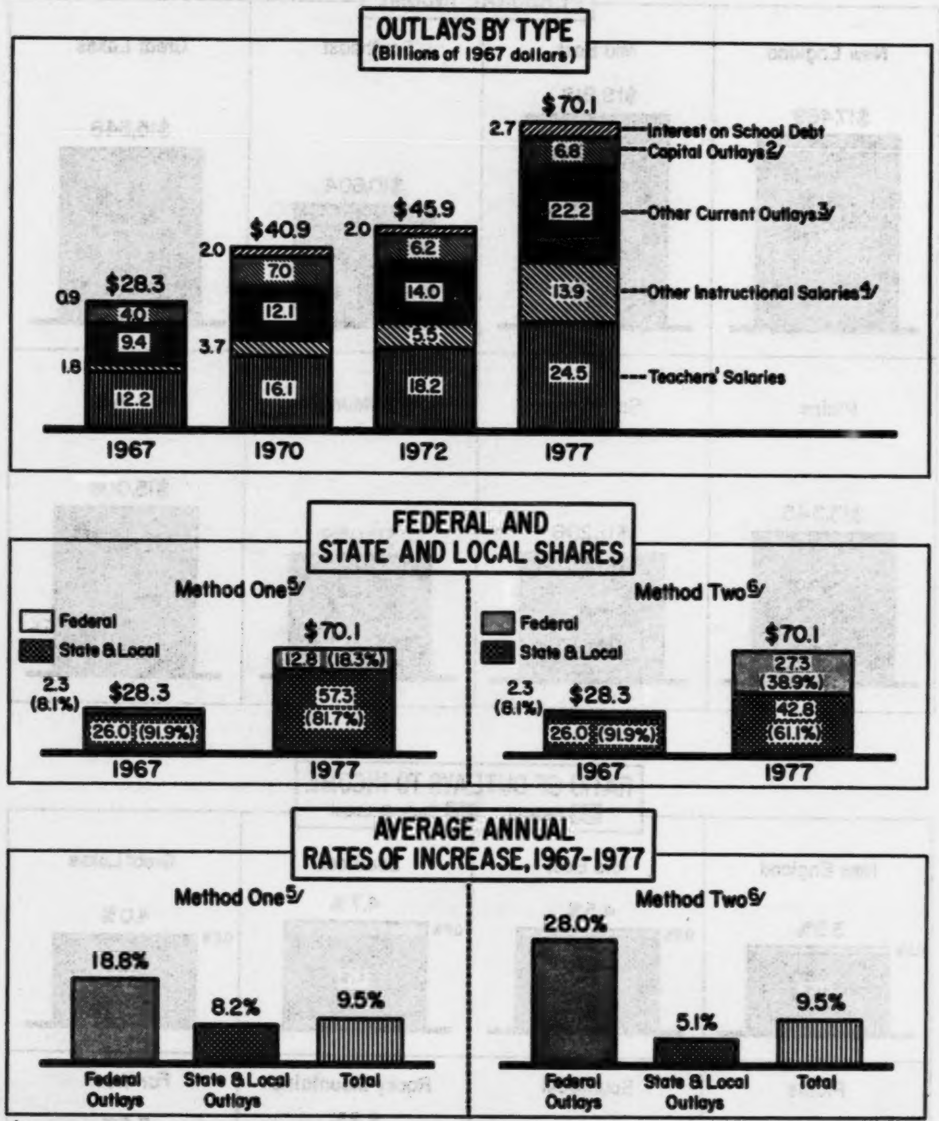
[1] Elementary (including kindergarten) and secondary public schools. School year 1966-1967 shown as 1967, etc.

[2] 50 States and D.C.

Basic Data: National Education Association

TABLE IX

OUTLAYS FOR PUBLIC SCHOOLS, 1967 AND GOALS FOR 1970, 1972, AND 1977[1]



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[1] 50 states and D.C. Elementary (including kindergarten) and secondary public schools. School year 1966-1967 shown as 1967, etc.

[2] Classroom construction for replacement, elimination of unsatisfactory conditions, increased enrollment, and reduction of class size.

[3] Includes administration and operation and maintenance of plant; fixed charges; salaries of school aids, maintenance personnel, and other noninstructional personnel; and such programs as summer schools, adult education and school lunch.

[4] Includes principals, supervisors, librarians, guidance and psychological personnel, and other fully accredited nonteacher instructional staff.

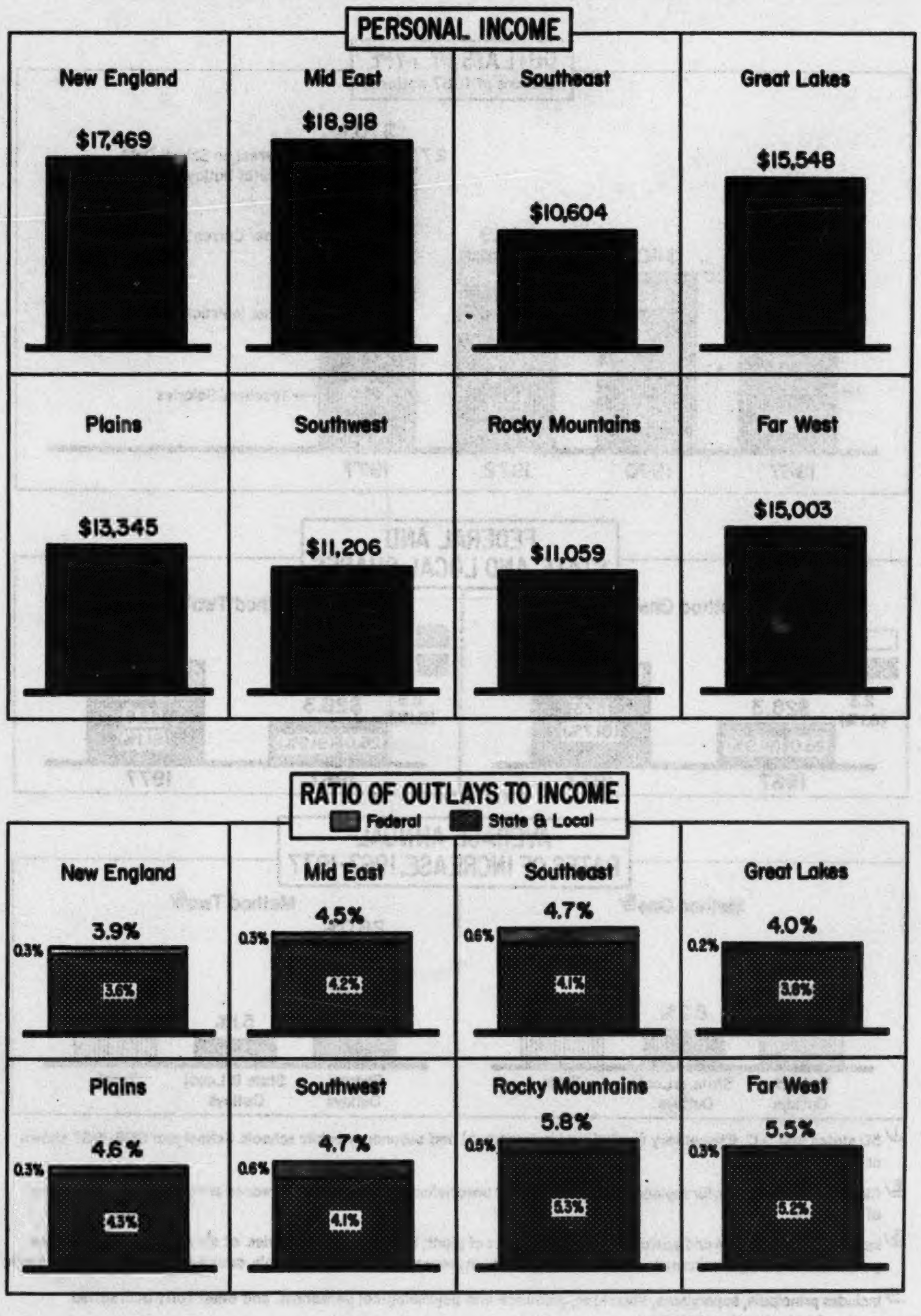
[5] State and local share based on recent trends in personal income.

[6] State and local share based on recent in State and local public school expenditures.

Basic Data: Office of Education, Dept. of H.E.W.; National Education Association

TABLE X

PER PUPIL PUBLIC SCHOOL OUTLAYS IN RATIO TO PER PUPIL PERSONAL INCOME, BY REGIONS, 1967[1]



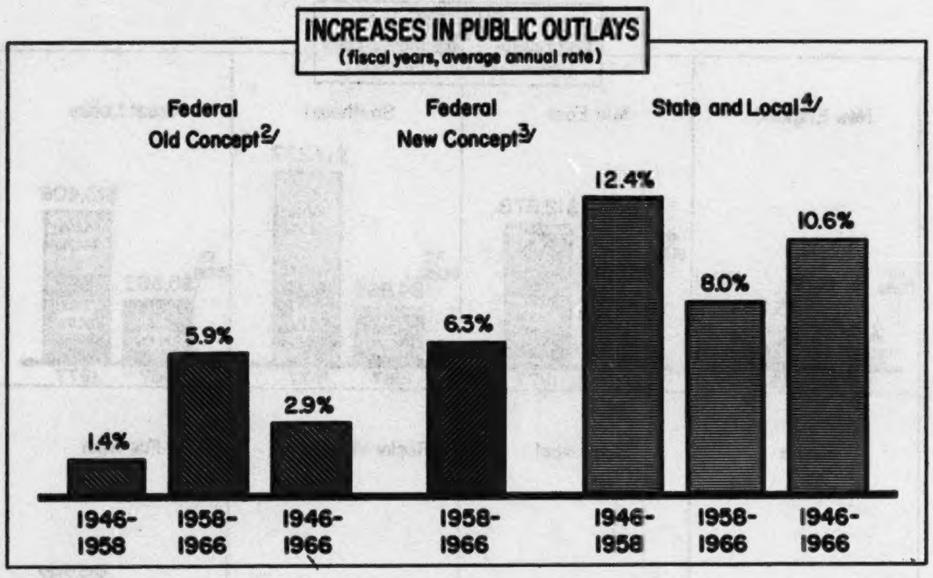
[1] Elementary (including kindergarten) and public secondary schools. Personal income, calendar 1967. Outlays, school year, 1966-1967.

Basic Data: Office of Business Economics, Dept. of Commerce; Office of Education, Dept. of H.E.W.; National Education Association

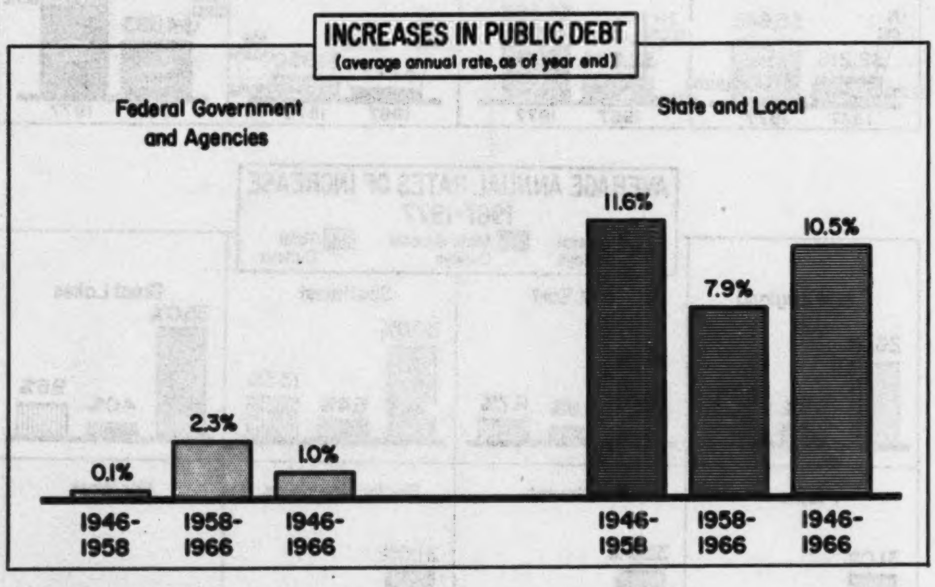
TABLE XI

RESOURCES OF STATE AND LOCAL GOV'TS MORE STRAINED THAN THOSE OF FEDERAL GOV'T
RELATIVE TRENDS, 1946-1966 1/

INCREASES IN PUBLIC OUTLAYS
(fiscal years, average annual rate)



INCREASES IN PUBLIC DEBT
(average annual rate, as of year end)



1/ 1946-1966 selected because of availability of comparable data.

2/ Administrative Budget, most comparable to State and local expenditures.

3/ Concepts used in President's 1969 Budget, including Trust funds, net lending, and some other items. 1958 first year available.

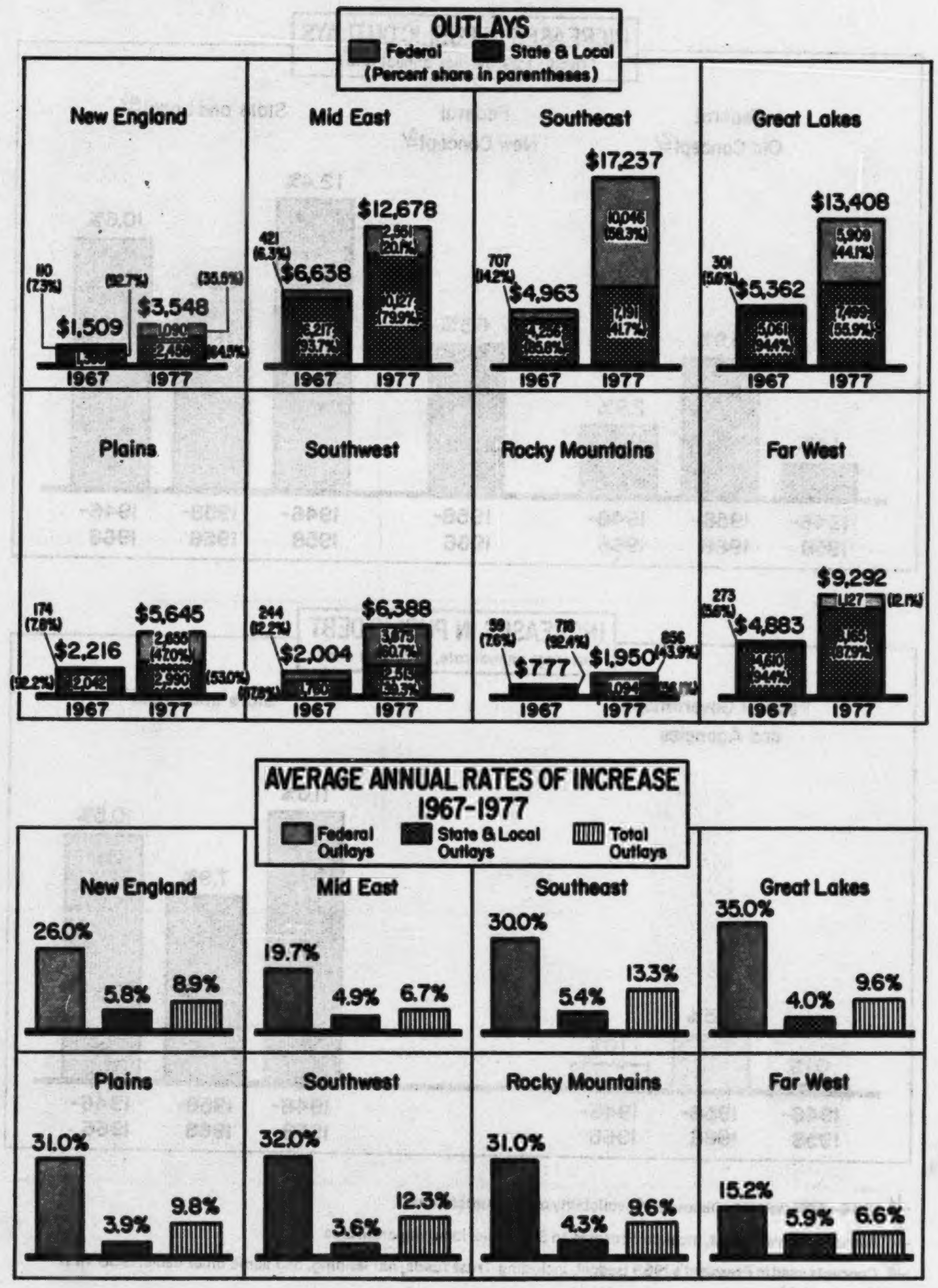
4/ Excludes insurance-trust activities, intergovernmental receipts and payments between State and local governments and expenditures of publicly owned utilities and liquor stores.

Basic Data: Dept. of Commerce; Treasury Dept.; Dept. of Agriculture; Board of Governors of the Federal Reserve System

TABLE XII

OUTLAYS FOR PUBLIC SCHOOLS, BY REGIONS, 1967[1] AND GOALS FOR 1977 UNDER METHOD TWO[2]

(millions of 1967 dollars)



[1] Elementary (including kindergarten) and secondary public schools. School year 1966-1967 shown as 1967, etc.

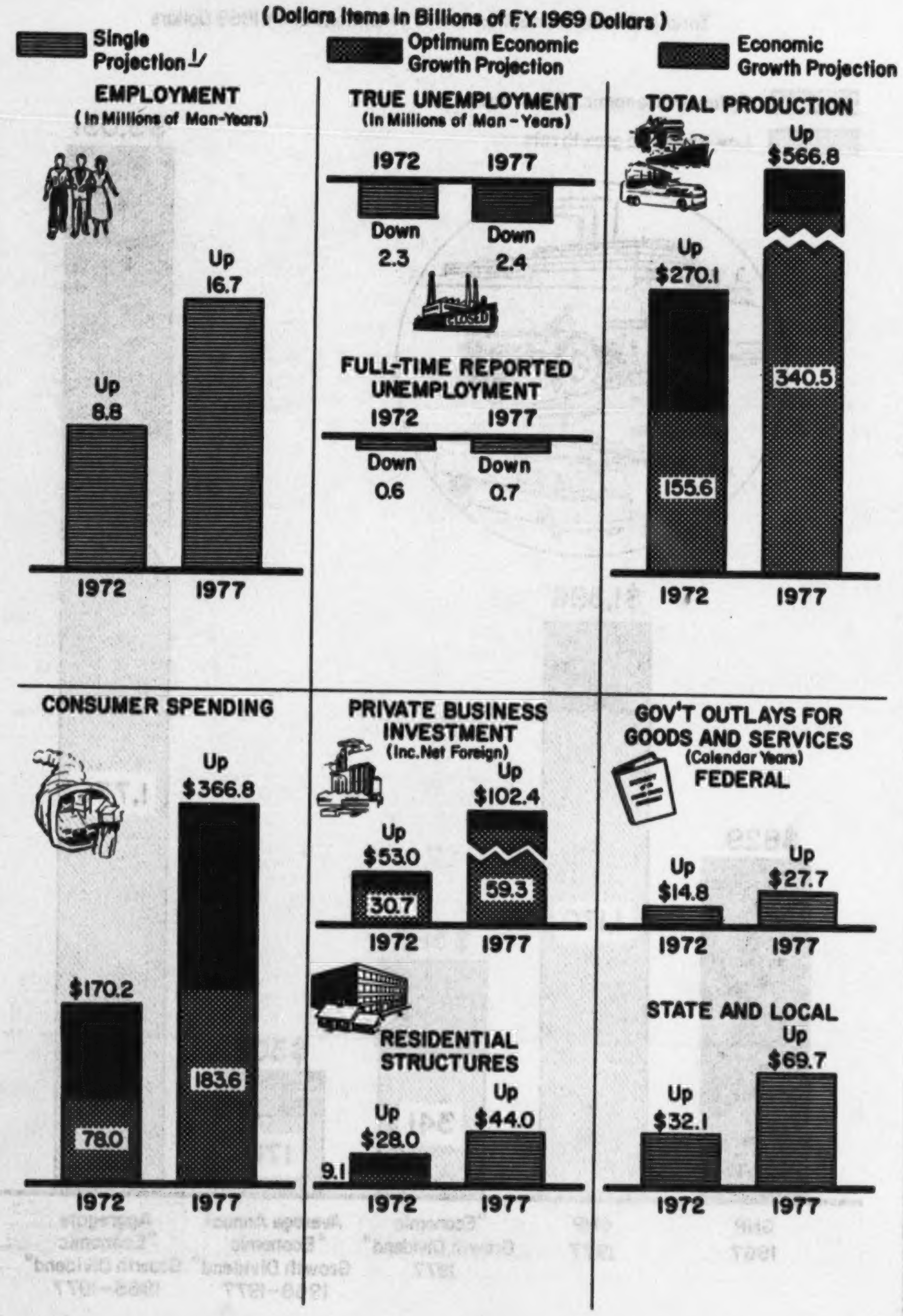
[2] State and local share based on recent trends in State and local public school expenditures.

Basic Data: Office of Education, Dept. of H.E.W.; National Education Association

TABLE XIII

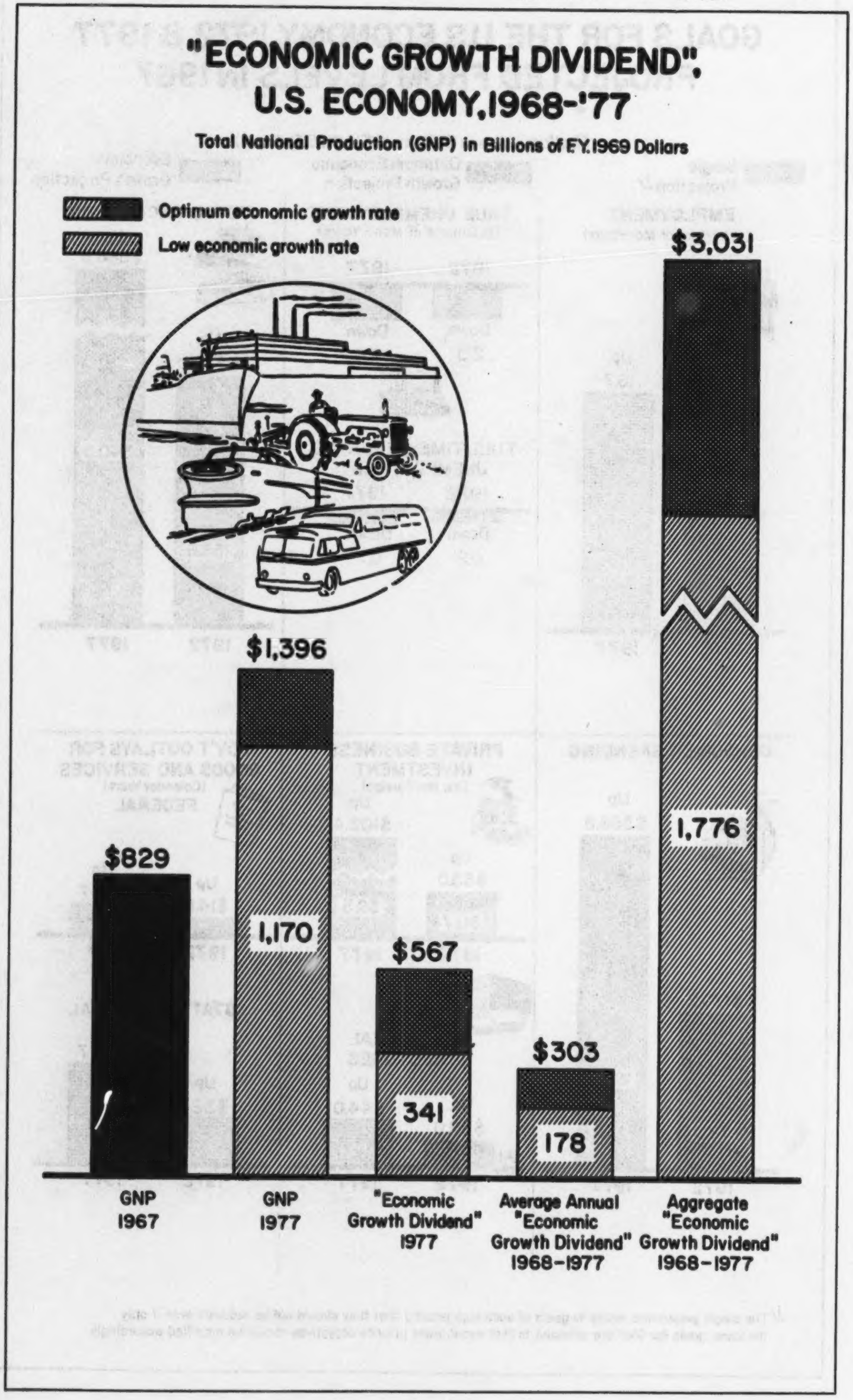
GOALS FOR THE U.S. ECONOMY, 1972 & 1977 PROJECTED FROM LEVELS IN 1967

(Dollars Items in Billions of F.Y. 1969 Dollars)



[1] The single projections relate to goals of such high priority that they should not be reduced even if only the lower goals for GNP are attained. In that event, lower priority objectives should be modified accordingly.

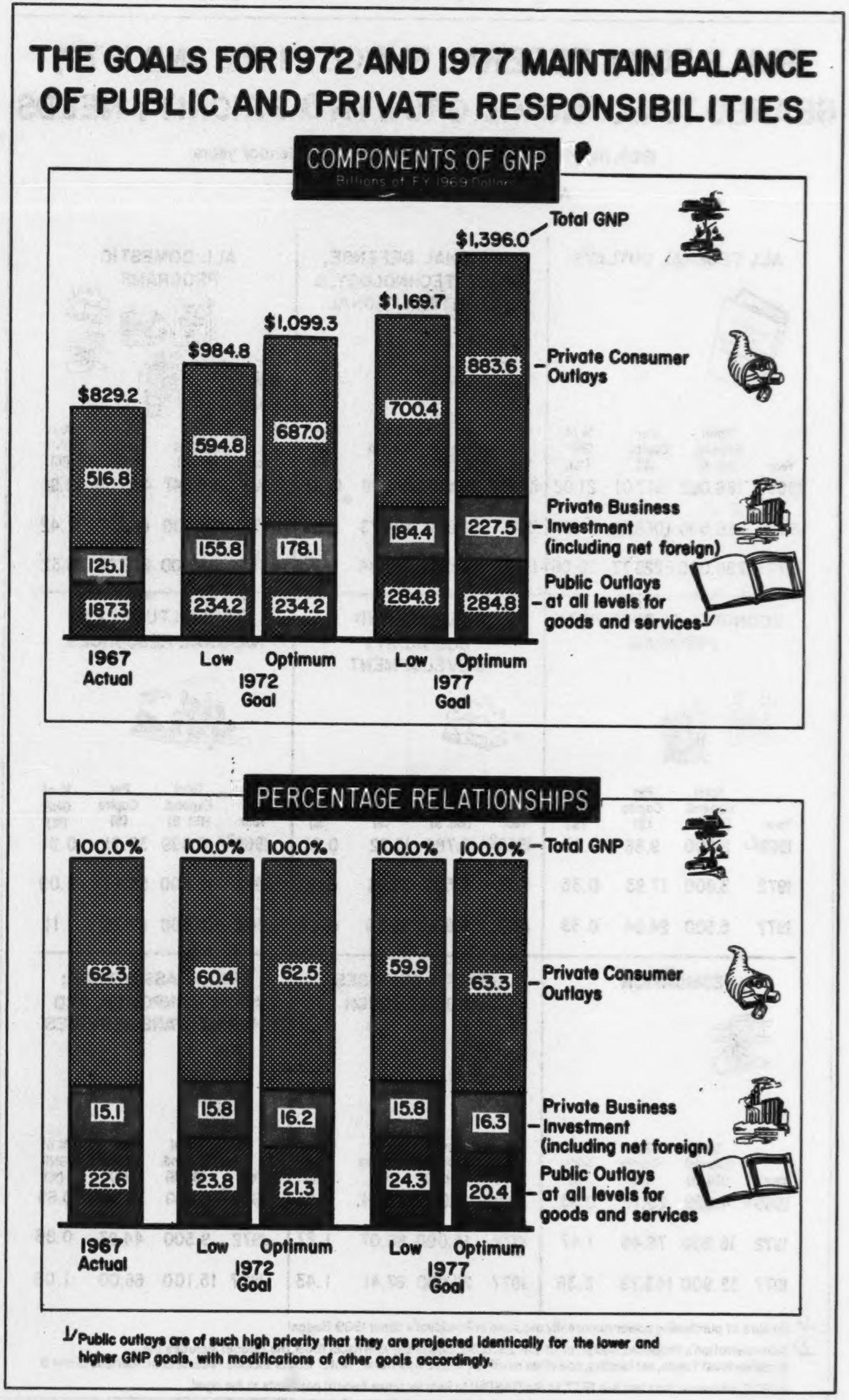
TABLE XIV



"ECONOMIC GROWTH DIVIDEND", U.S. ECONOMY, 1968-'77

Total National Production (GNP) in Billions of F.Y. 1969 Dollars

TABLE XV



THE GOALS FOR 1972 AND 1977 MAINTAIN BALANCE OF PUBLIC AND PRIVATE RESPONSIBILITIES

[1] Public outlays are of such high priority that they are projected identically for the lower and higher GNP goals, with modifications of other goals accordingly.

TABLE XVI

GOALS FOR A FEDERAL BUDGET, 1972 AND 1977, GEARED TO ECONOMIC GROWTH & PRIORITY NEEDS

1969, fiscal year; goals for 1972 and 1977, calendar years

All figures in fiscal 1969 dollars[1]

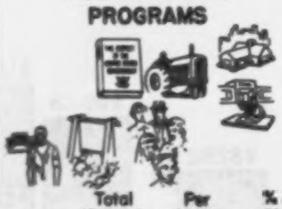
ALL FEDERAL OUTLAYS

Year	Total Expend. (Bil. $)	Per Capita ($)	% of GNP (%)
1969[2]	186.062	917.01	21.02
1972	226.500	1,068.90	20.61
1977	280.000	1,223.77	20.06

NATIONAL DEFENSE, SPACE TECHNOLOGY, & ALL INTERNATIONAL

Year	Total Expend. (Bil. $)	Per Capita ($)	% of GNP (%)
1969[2]	89.515	441.18	10.11
1972	90.000	424.73	8.19
1977	94.000	410.84	6.73

ALL DOMESTIC PROGRAMS



Year	Total Expend. (Bil. $)	Per Capita ($)	% of GNP (%)
1969[2]	96.547	475.84	10.91
1972	136.500	644.17	12.42
1977	186.000	812.93	13.32

ECONOMIC OPPORTUNITY PROGRAM

Year	Total Expend. (Bil. $)	Per Capita ($)	% of GNP (%)
1969[2]	2.000	9.86	0.23
1972	3.800	17.93	0.35
1977	5.500	24.04	0.39

HOUSING AND COMMUNITY DEVELOPMENT

Year	Total Expend. (Bil. $)	Per Capita ($)	% of GNP (%)
1969[2]	2.784	13.72	0.31
1972	5.500	25.96	0.50
1977	9.000	39.34	0.64

AGRICULTURE; AND NATURAL RESOURCES

Year	Total Expend. (Bil. $)	Per Capita ($)	% of GNP (%)
1969[2]	8.099	39.91	0.91
1972	12.000	56.63	1.09
1977	15.500	67.75	1.11

EDUCATION

Year	Total Expend. (Bil. $)	Per Capita ($)	% of GNP (%)
1969[2]	4.699	23.16	0.53
1972	16.200	76.45	1.47
1977	32.900	143.79	2.36

HEALTH SERVICES AND RESEARCH

Year	Total Expend. (Bil. $)	Per Capita ($)	% of GNP (%)
1969[2]	10.655	52.51	1.21
1972	14.000	66.07	1.27
1977	20.000	87.41	1.43

PUBLIC ASSISTANCE; LABOR, MANPOWER, AND OTHER WELFARE SERVICES

Year	Total Expend. (Bil. $)	Per Capita ($)	% of GNP (%)
1969[2]	6.280	30.95	0.69
1972	9.500	44.83	0.86
1977	15.100	66.00	1.08

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[1] Dollars of purchasing power apparently assumed in President's fiscal 1969 Budget.

[2] Administration's Proposed Budget as of Jan. 29, 1968. Beginning with fiscal 1969, the Budget includes the immense trust funds, net lending, and other relatively minor new items. Note: Goals include Federal contributions of one b in 1970, and more than two b in 1977, to the OASDHI to help increase benefit payments to the aged.

STATEMENT OF CARL J. MEGEL, LEGISLATIVE DIRECTOR, AFL-CIO AMERICAN FEDERATION OF TEACHERS, WASHINGTON, D.C.

October 9, 1969

The American Federation of Teachers is a national organization affiliated with the AFL-CIO and consisting of 170,000 classroom teachers. I am appearing before this Committee in support of H.R. 11546, a bill cited as the "Nationwide Educational Excellence Act".

Recognizing that the educational needs of our nation have in the past been obvious but without factual determination, the American Federation of Teachers in 1968 requested Dr. Keyserling to make a study to determine accurately the national deficiencies and to produce a formula which would correct the inaccuracies. This study was prepared and completed in 1968 and published under the title "Achieving Nationwide Educational Excellence". We also wish to request the inclusion of the following amendment clarifying our "educational need" provisions partially spelled out in Sec. 6 on pages 5 and 6.

WITHIN-STATE EQUALIZATION

SEC. 6. The Commissioner shall not approve an application by a State for funds under this Act unless there is satisfactory assurance that such funds will be allocated among the local educational agencies within that State *in accordance with the educational need of each local agency as determined by a formula based on commonly accepted social indices such as reading retardation, school drop-out rates, truancy rates, pupil transiency rates, court cases involving children, such measures to be considered in conjunction with the ability of the local educational agency to provide financial support for schools.*

STATEMENT OF JOSEPH A. BEIRNE, PRESIDENT, COMMUNICATIONS WORKERS OF AMERICA, AFL-CIO, WASHINGTON, D.C.

October 15, 1969

The Communications Workers of America, AFL-CIO, is a union representing more than 450,000 workers in the communications field.

I appear before you to support and heartily urge passage of HR 9866, a bill that would make it the policy of the nation to create the opportunity for every citizen to get a prekindergarten through postgraduate education—in short, the highest possible education—without financial barriers and limited only by two conditions, one, he must have the desire to learn and, two, he must have the ability to absorb such training.

Nothing emphasizes our need for such a policy as much as our triumph with Apollo 11 which, because of educated men, marked 1969 forever in history as the year of an unbelievable landing of man on the moon.

Man not only landed on the moon, he walked and gamboled there. And as an added filip, he telecast pictures of the event for all the willing world to see. I am proud to say that members of my union—CWA—completed those circuits.

The space effort, of course, is the most visible part of the productive American technology, a technology which was nurtured on educated human intelligence and which is making an enormous demand for educated people.

Medicine and the other life sciences, the physical and social sciences, and even commerce are making the same demands today.

Who would say there is no need for more education as long as there is a single incurable disease, as long as space and the sea bottom are uncharted, and as long as pollution fouls the very air we breathe?

In this regard, I cannot agree more profoundly with President Nixon when he repeats the warning of a great philosopher that "the race which does not value trained intelligence is doomed." And I cannot agree more profoundly with Mr. Nixon when he pledges his administration will be "second to none in its concern for education."

A recent U.S. President called education "the keystone and the arch of freedom and progress."

"No task before our nation is more important than expanding and improving the educational opportunities for all our people," he said. "For education is both the foundation and the unifying force of our democratic way of life—it is the mainspring of our economic and social progress—it is the highest expression of achievement in our society ennobling and enriching human life . . . [and] at the same time the most profitable investment society can make . . ."

The author of those words, gentlemen, was President John F. Kennedy, the man who said almost a decade ago that we would land a man on the moon before 1970—and was right.

H.R. 9866 seeks to expand the educational opportunities for all Americans as these and other Presidents have urged and is therefore a most exciting bill.

But I want to address myself exclusively and narrowly to one facet of it. That is, I want to stress the need for a National Education Policy. In our own time, in recent years, we have at last seen the Federal government come into education, but without explicit Federal policy to guide it.

So, it is no wonder, for example, that it took *special* Congressional action to reactivate the guaranteed student loan program.

Gentlemen, recognize that the bill before you provides a commission with a wide range of alternatives in deciding the best procedures for guaranteeing educational opportunity for all. The philosophic thrust is good—but let us put the horse in front of the cart.

Congress has been appropriating money for educational objectives for years, sometimes, unfortunately, under time pressure, and sometimes under what might be called semi-crisis conditions. And under these conditions, it simply has had no over-all policy to guide it.

Let us make certain right now that we get a policy. For an entire century, since the land grant college act of the Lincoln Administration, we have been moving toward improvement both in quantity and quality in education.

We have come a long way but we can say today to Congress—now that we have the tools to look over the field intelligently—that "something is missing." The mobility of our population and the demand for knowledge—a phenomenon that has become strikingly noticeable—has created an urgent need for vast numbers of men and women with university degrees as well as workmen with training beyond high school in technical and vocational skills.

We need a national education policy to guide such a massive undertaking throughout a great nation. In fact, it is critically necessary.

Look at the serious shortage of trained people in this country. Every metropolitan newspaper in the nation carries column after column after column of help wanted ads calling for people with higher education to fill skilled jobs.

Advertised are jobs for salesmen, engineers, lawyers, computer programmers, accountants, editors, draftsmen, physicists, architects and designers, doctors, plant managers, marketing experts; thousands and thousands of jobs that pay well and provide dignity.

And we have the raw material to fill these jobs! But we sorely need a National Policy that would be sure to provide for their education.

Moreover, some of the most serious shortages are in areas where the most training is needed—doctors, lawyers, engineers—and we ought to say how many doctors we need in America, how many doctors and other highly trained health personnel.

But the sad fact is there really is no answer now. And we will never know what we need until we open up the opportunities.

Two years ago I had the privilege to serve the President of the United States on his Health Manpower Commission, and I was shocked to learn how serious the shortage of trained health manpower really is.

Since then the newspaper accounts of so many communities desperately advertising for doctors have surfaced this sorry situation for the public.

Certainly, the 88th, 89th and 90th Congresses deserve immense credit for everything they did in the field of education but their activities could have been even more fruitful if there had been an overall guiding policy.

We Americans have always been tough about the depth we want in backstopping our guarantees of life, liberty, and the pursuit of happiness. We do not settle for a Constitutional guarantee alone—we demand specific laws.

And it is by being tough and persistent that we get the kind of laws the nation needs. Here, in the field of education, we have been waiting more than 100 years for such a policy, and it is high time for decision.

Make no mistake about it, a National Education Policy would pay, and pay the nation well, because nothing else in the world is as profitable for a nation as education. Look at the facts. We passed an agriculture college act and today we feed our nation and sell agriculture products abroad—while employing only 15 percent of our population in agriculture. No other nation can match this and, of course, no other nation has matched our educational setup in this field.

Let me quote further proof for this from a study by Professor Theodore Schultz of the University of Chicago that was published under the title "Investment in Human Capital" in the *American Economic Review* (March, 1961).

"It has been widely observed," Professor Schultz wrote, "that increases in national output (due to people acquiring useful skills and knowledge) have been large compared with increases of land, manhours, and physical reproducible capital."

And, of course, there is vivid testimony from our experience with our own World War II GI Bill which enabled young men, who never dreamed it possible, to find themselves enrolled in college.

Moreover, those who received advanced education through the GI Bill have paid an estimated $1 billion a year more in income tax than they would have paid had they not received the additional education.

Gentlemen, what this means is that the government's investment in the GI Bill was not only repaid in 15 years, but that the higher taxes on subsequent earnings of the participants continue to this day to provide the government with a handsome profit on this education investment.

Look at what such a profit means. The Department of Commerce reported in 1965 that a worker with less than an elementary education earned $3,283 a year and $159,000 in his lifetime. With a high school education, the figures were $6,899 a year, and $297,000 for his lifetime.

Now look at the figures for the worker with a college degree—in this 1965 report, with the subsequent inflation, it is certain to be very much higher—$10,823 for the year, $482,000 for his lifetime.

In short, a college education is worth at least $200,000 to the high school graduate. And the taxes on $200,000, which because of our progressive tax setup would be proportionately greater than the bite on $159,000, make it a profitable investment indeed for the government to subsidize this man with the nominal sums such an educational effort would require.

And there is another profit that cannot be readily quantified in terms of dollars, but is well understood. It is the contribution of these citizens in civil efforts, in social participation, and in enthusiastic patriotism to our nation, its people, and our national ideals.

Moreover, I am sure you have been sorely distressed, as I have, to run into people who have obviously much to give but who have never realized their full potential because of lack of education.

H.R. 9866 seeks to guarantee to everyone in the nation that he will have the opportunity to obtain an education.

There are those who will find fault with the purposes of the bill. Basically they are those perennial opponents of progress whose social blindness would permit them to throw out the baby with the bath water. They opposed laws cutting the work day to 12 hours, to 10 hours and to 8 hours.

They will point to campus riots and student protests as indications that nothing more should be done until the students behave themselves.

The facts of life should quiet their fears. It has been my experience that where men draw what they consider good pay, there is little irresponsibility; where they feel their pay is low there is great irresponsibility.

It will work the same way with students. When they know there is an opportunity to assure themselves of an education, they will know their world has improved and they will perform responsibly. And that is another excellent reason for passing this bill.

Moreover, the fact that the world of opportunity was open to them would soon sift down to the younger generations coming along.

Establishment of a National Educational Policy would clear up uncertainty for millions of the poor in this country and enable them to set their sights on worthwhile educational achievements that would benefit themselves and the nation.

That is what America is dedicated to, anyway—the opening of opportunity for all. When we think about whether a National Educational Policy is needed, let us not forget that there are 23,000 boards of education in the nation who have been operating with absolute autonomy.

It is no wonder then that without such a policy, a handful of local administrators are arguing with the Department of Health, Education and Welfare about civil rights. With a national policy, we would no longer have to solve each new educational crisis on an *ad hoc* basis.

There is one thing there can be no argument about. Education pays the nation in many ways. This has been established beyond question.

Congress in its wisdom has many times recognized this principle and taken heroic action to advance education.

I understand that there are many problems connected with education that need solution. But I sincerely believe that to find these solutions we must start by establishing a fundamental policy and that is why I have been so single minded in my presentation today.

HR 9866 offers that start. It should be passed quickly so that the nation can get on to reaping the rich harvest a National Education Policy is certain to provide.

STATEMENT OF G. E. HENDERSON, COORDINATOR, AMERICAN ASSOCIATION FOR AGRICULTURAL ENGINEERING AND VOCATIONAL AGRICULTURE, UNIVERSITY OF GEORGIA, ATHENS, GA.

October 15, 1969

My associates and I are very pleased to have the opportunity to present a brief résumé of the work we are doing as a national vocational curriculum center—work that has extended over a period of more than 20 years.

First, a word regarding the history and background of our Association.

In the early 1940's vocational agriculture teachers, and other educators in the South, were feeling two strong forces that were challenging their teaching capabilities. The first and strongest was the sudden change from a cotton-and-mule economy to a mechanized and diversified agriculture for which they were not trained. The second force developed with World War II when the teachers were assigned responsibility for training farmers about care and maintenance of their farm equipment. When the teachers found they were not adequately trained in the agricultural mechanics field, their complaints filtered back to both the State offices of education and the colleges.

In 1945, the 12 southern states bounded by Texas and Oklahoma on the west, and Virginia and Florida on the east, formed a nonprofit cooperative organization called the Southern Association for Agricultural Engineering and Vocational Agriculture, in a cooperative effort to meet the problem. Those directly involved in each State were the State office of education and the teacher education and agricultural engineering departments at the State college.

By 1949, the Association had selected the University of Georgia as headquarters for a curriculum center, a coordinator and staff were appointed, and a constitution and by-laws established providing for each State to have a director on the Board of Directors—the board to control program matters, the university to be responsible for fiscal matters.

One of the early mandates from the board to the coordinator was to prepare teaching materials that were (1) organized for teaching, (2) factually complete and accurate, (3) well illustrated and (4) graded to a high school teaching level.

Since no interstate subject matter organization of this nature had ever been established before, the venture was definitely of a pioneering nature. There were several major problems. One of them was how States would support the Association financially after an initial grant from the General Education (Rockefeller Foundation) had expired. Another was what quality standards were needed to satisfy the board's mandate. Gradually, the problems were solved.

Out of these experiences came two very important developments:

1. A system for subject matter development that assures quality in teaching materials.
2. A system of interstate relationships supporting it.

During the succeeding years a number of other developments have taken place. Some of the major ones are as follows:

- The teaching materials were accepted not only regionally but nationally and internationally.
- New methods were developed whereby more States could participate.
- Publication quality standards were established and tested to the satisfaction of all States.
- Industry cooperation was established.
- Text materials were supplemented with visuals.
- Good relationships were developed with the U.S. Office of Education and other government agencies.
- States outside of the 12-State, Southern Region became interested in participating. The Association changed its name from "Southern" to "American." Twenty-four States are now participating.
- The staff has expanded from three to six full-time staff members.

We believe we now have an effective, smooth-running organization.

We have watched with much interest and admiration the development and passage of the Vocational Education Act of 1963 and the Vocational Education Amendments of 1968. Of special interest to us are the provisions for development of instructional materials and provisions for establishing national curriculum centers.

As a matter of quick review, Melvin L. Barlow, the former administrative staff director of the Advisory Council on Vocational Education, summarized the thinking and recommendations of the Advisory Council in his paper "Intent and Purpose of Part I of the Vocational

Education Amendments of 1968."* Following are excerpts from pages 3 and 4 of his paper:

> In 1961, President Kennedy appointed a Panel of Consultants on Vocational Education to study the total area of vocational education and to report findings and recommendations. The Panel, in its report, *Education for a Changing World of Work*, discussed in some detail the problem, plight, and need for curriculum development and for preparation of instructional materials. The Panel's recommendations were quite clear.
>
> It is recommended that the production of instructional materials for vocational courses be recognized as vital to an effective national program and that—
>
> 1. One or more instructional material laboratories be established to produce and distribute vocational instructional materials.
>
> The intent of the Panel concerning instructional material development did get into the Vocational Education Act of 1963, but it was lost in a listing of other imperatives.
>
> Five years later, in 1967, the matter of curriculum development came to the attention of the Advisory Council on Vocational Education. The Council supported the Panel's earlier curriculum views and in the general report of the Council, *Vocational Education: The Bridge Between Man and His Work*, the following recommendation was made:
>
> "It is recommended, that there be established two to four centers for curriculum development in vocational education."

Your Committee, in Part I PL 90-576, wisely provided for curriculum development in vocational education. Insofar as we know, no Federal funds have been used to establish a national curriculum center. Yet most authorities seem to agree that instructional materials are fundamental to achieving our objectives in vocational education. Our Association supports this view 100 percent.

As you check our catalog, you can see our offering of publications and visuals is limited—21 publications and 10 sets of visuals. But our sales are approaching $200,000 (retail value) per year. The demand is excellent. Interest is excellent.

Briefly, here is the present situation:

- Additional states are planning to participate.
- There is increasing pressure to prepare more teaching materials at a faster rate.
- There is general interest in our expanding into other subject matter areas. For example, a survey of members of the National Association of State Directors of Vocational Education, and of the deans and directors of Agricultural Instruction of the Land Grant College Association, shows almost 100 per cent endorsement of this proposal.
- An expanding problem of keeping existing material updated.
- Complete cooperation of the participating states in support of the Association.
- Frequent recognition and honors for instructional materials that are being developed—17 blue ribbon awards from the American Society of Agricultural Engineers, a commendation from the National Safety Council, many letters of appreciation.

We would like to share in the development of instructional materials and share the results of our twenty years of experience as a regional and national center with new centers that may be established. We believe that any national center will encounter similar (or maybe the same) sets of conditions that our Association has experienced, ones that are perplexing and time consuming to solve.

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*National Conference Curriculum Development in Vocational and Technical Education, Dallas, Texas, March 5, 1969.

We are here seeking your advice and counsel as to how we may assist in meeting the very worthy objectives established by Congress.

STATEMENT OF JOHN M. LUMLEY, ASSISTANT EXECUTIVE SECRETARY FOR LEGISLATION AND FEDERAL RELATIONS, NATIONAL EDUCATION ASSOCIATION, WASHINGTON, D.C.

October 15, 1969

The National Education Association represents over one million professional educators who are members of the Association. I welcome this opportunity to comment on H.R. 9866.

This bill, in its statement of purpose, is consistent with established policy of NEA, which for years has sought free public education for every citizen from preschool to the highest level he is capable of achieving.

The bill sets forth a Congressional statement to the effect that education is the nation's highest priority and that Congress declares it to be the policy of the United States that every citizen is entitled to high quality education from preschool through graduate school without financial barriers, limited only by individual desire and capacity. The NEA completely and totally subscribes to this premise and urges the adoption of that part of H.R. 9866 which contains this Congressional policy statement.

The basis for this position is contained in Resolutions C-1 and C-20, as adopted by the NEA Representative Assembly in July 1969:

C-1 EDUCATIONAL OPPORTUNITY FOR ALL

The National Education Association believes that education should be provided from early childhood through adulthood, be suited to the needs of the individual, be nonsegregated, be offered beyond the traditional school day and school year, be offered at public expense, and be required through the secondary school. The individual also must be free to choose, to supplement, or to substitute education in privately supported nonpublic schools.

C-20 BASIC FINANCIAL SUPPORT

The National Education Association believes that public education should be supported from public tax sources to ensure that each citizen has an educational program for the highest level he is capable of achieving. This is the only true meaning of equality of educational opportunity.

The Association also believes the tax systems of the Federal, State, and local governments should share equitably in supporting public schools. Special apportionments of Federal and State funds should be provided to encourage experimentation and promote improvements in educational practice.

The total impact of the tax system supporting schools should be proportionate to the ability of the taxpayers to pay without undue hardship on any one group. No one tax should bear a disproportionate share of the cost. Outmoded and restrictive tax rate and indebtedness limitations must be removed. The tax systems should be continually reviewed to ensure an equitable distribution among individual taxpayers, among school systems, and among levels of government.

The remainder of H.R. 9866, beginning with Section 2, provides for a 14-member Presidential Commission, under the chairmanship of the Secretary of Health, Education and Welfare, empowered to appoint staff and secure technical assistance, to conduct an 18-month study and recommend a plan, or plans, to achieve the objective stated in the Congressional statement of policy.

With all due respect, the teaching profession is somewhat disillusioned with Presidential commissions appointed to study and recommend. We have had White House Conferences on Education, Commissions on the Education of the Disadvantaged, Conant Reports, Gardner Reports, Rockefeller Reports, Terry Sanford Report, Carnegie Reports, Heller-Peckman Report, Commissions on Civil Rights Reports, Advisory Committee on Intergovernmental Relations Report, Commission on Civil Disorders Reports, *ad nauseam*—and nothing comes from any of them except a few soul-searching editorials, extensions of remarks in the *Congressional Record*, articles in the intelligentsia magazines, and dust gathering on the shelves.

We are tired of American education being studied, analyzed, probed, researched, surveyed, and polled. We maintain that, while education is a national concern and the lack of it creates national problems, the solutions are not national in application. What is needed in Chicago is different from what is needed in Lame Deer, Montana—except for money. The problems of upstate Maine are not the same as the problems of Tampa, Florida. Indeed, the problems of Louisville are not the problems of Hazel Patch even though these communties are in the same state of Kentucky.

In its policy positions, the NEA has consistently resisted legislation which would undermine the autonomy of State and local governments in the formulation and administration of school systems. The Education Commission of the States is a good model of intergovernmental cooperation in the planning of school programs, since it is a consortium of individuals directly responsible to the electorate. On the other hand, the proposed National Commission would not operate under the restraints imposed by responsibility to the voters. It is popular these days to laugh off the threat of Federal control. But this bill, for all its good intentions, could open the door to the development of a national curriculum. Diversity is one of the great strengths of our education system.

The National Education Association welcomes all efforts to improve instruction and equalize educational opportunity for the American people. We recognize the value of national debate on educational issues, but we must resist any attempt to lodge crucial decision-making within the executive branch of government. Congress reviews annually the programs it has enacted. The members of this Subcommittee and the full Education and Labor Committee are fully versed in the matters of educational priority. While it is desirable to provide the executive with the assistance of recognized experts in various fields, we must be watchful that our public administrators do not violate the intent of Federal legislation by faulty interpretation or deliberate distortion of the programs enacted by Congress and the States.

As a result of pressure for Federal aid to education in the late 1940's, legislation was enacted in 1954 (at the request of the Eisenhower administration) which established a National Advisory Committee on Education composed of nine members. This legislation is still on the books (U.S. Code Chapter 20, paragraphs 333–337). The Committee was empowered to do all the things that this bill establishes for the National Commission to do. The Committee was never appointed. With the present administration's attitude toward education as indicated so far, we question whether or not such a Commission—if appointed—would be composed of people knowledgeable and concerned about education.

What the American education enterprise needs is not more studies. Rather, it needs a massive infusion of money. Obviously the State and local sources are not equal to the job. So we turn to the Federal government. I beg of you, do not put us off with another Commission, another study, another report.

Let me repeat. We support H.R. 9866 as far as line 3 on page 2. Such a declaration of policy by the United States Congress is highly desirable—if it does not stop with merely a declaration. It must be followed during the 91st Congress by a massive commitment of Federal funds. The alternative is continuing progress toward disaster.

STATEMENT OF ALBERT SHANKER, PRESIDENT, UNITED FEDERATION OF TEACHERS, NEW YORK, N.Y.

October 16, 1969

Our nation's schools are being faced with the most serious crisis in our history. The crisis is one involving a serious lack of funds, a critical lack of trained teachers, and a lack of commitment on the part of our society that education must be a number one priority if we are to provide equal opportunity for all the youth of America.

In New York City, for example, the Board of Education is asking for more than half a billion dollars in school construction in 1970 to relieve the tremendous overcrowding in our schools. Most observers recognize that the city will not be able to budget for that amount. Over the next 5 years, 375 school plants need to be constructed according to the Board of Education's own statistics.

Over the next 10 years, it is estimated by responsible New York City educational planners that more than $10 billion must be spent in school construction alone to keep pace with rising enrollments and provide modern plants so that schools can function efficiently and well. The New York City school system will have a quarter of a million more pupils in 10 years than it has today, and if current projections hold true, the percentage of disadvantaged youth requiring special attention at greater public expense will be significantly greater than it is today.

In 1969, more than one out of every three pupils attending New York City schools lives in poverty. More than 36 percent qualify under the "free lunch" program and correspondingly the same percentage of children is two or more years behind in reading skills. The best overall predictor of school performance today seems to be the income of the parents. The problem of successfully teaching the child of poverty has not yet been solved on a mass basis because thus far society refuses to supply the necessary funding.

I am reporting this to you not as typical of the problems we face in our largest city, but as typical of every major city in the nation. For I have traveled to many of our urban centers around the country and I know firsthand that Washington, D.C., Chicago, Detroit, Cleveland, and other great cities are experiencing the same problems—large classes; old school buildings earnestly in need of repair; overcrowded facilities operating on double, triple, and even quadruple sessions, starting as early as 7:00 in the morning and ending after 5:00 at night; thousands of teachers who do not have full certification or licensing; hundreds of thousands of pupils who are two or more years retarded in reading—products of poverty and coming to a school which also is operating on a starvation budget.

These are educational problems common to urban America, and I come here today to plead with you to recognize this problem by supporting H.R. 11546, which will raise the level of expenditures for education to $1600 per pupil within the next 10 years.

This legislation, if enacted, would establish that Congress really means to make educational excellence a major responsibility of our society. It can provide the realization of a dream.

With new and expanded Federal funding, American schools could be revolutionized:

(1) Early Childhood Education

Much recent research indicates that the most significant years of a child's life in educational terms occur before the age of six. It is vital, therefore, that a nation-wide early childhood program be instituted with education on a full-time basis beginning at age 3. Such a program would give a head start in education to all children.

(2) Help for Children with Emotional Problems

In most school systems throughout the country there are virtually no funds available to help those children with special emotional, mental, or physical problems. Provision must be made for facilities for children with these special problems.

(3) Teacher-Internship Program

A Teacher-Internship Program must be created in which new teachers are trained under the complete supervision of a fully qualified teacher. We must provide proper training for new teachers so that they will not be placed in charged of a class until they are judged competent.

(4) More Effective Schools Program

The More Effective Schools Program is an elementary school program which provides small classes, psychological and guidance assistance and heavy remedial support for children. But this program is still in only a handful of schools around the country. Financial considerations prevent school boards from expanding this program despite the fact that it has proved that children of poverty can learn to read and can succeed.

With the Nationwide Educational Excellence Act, meaningful Early Childhood Education, More Effective Schools, and other improvements can become a national reality. In this way, children attending a school in Harlem, a school in Atlanta, or a school in Scarsdale will all have the same opportunity to succeed . . . an opportunity to which all American children are entitled.

STATEMENT OF MISS BETTY BUFORD, PRESIDENT, ASSOCIATION OF CLASSROOM TEACHERS, NATIONAL EDUCATION ASSOCIATION, WASHINGTON, D.C.

November 12, 1969

I represent 900,000 classroom teachers who comprise 92 percent of the membership of NEA. We have a tremendous interest in the inactment of HR 10833 because we are convinced without this kind of Federal support for education millions of the children we teach will not have a fair chance in life. President Fischer and Miss Sawaia have presented the broad picture to you. I wish to speak for the teachers who are, you might say, on the firing line.

Our concern for increasing teachers' salaries is not, as it might well seem, a selfish one. Research over the last 30 years indicates a positive relationship between level of teachers' salaries and level of educational quality. And it is educational quality which we, and we believe the majority of Congress and the American people, want.

Paul Mort Studies

Beginning in 1936 in Pennsylvania, Paul Mort conducted a series of studies in cost-quality relationships in education. These studies identified scores of factors related to the quality of the school process, including:

- Net current expenditure per pupil.
- Average teacher's salary.
- Professional-to-pupil ratio.
- Professional specialist ratio.

The Mort studies also showed that more money did not purchase more of the same thing, but permitted development of new aspects of education.

New York State Study

Since 1957 the New York State Education Department has conducted a quality measurement project. In the first four-year study 70,000 pupils participated. The study used a technique which neutralized effects of intelligence and socio-economic origin. Thus, the actual test scores achieved were compared to the scores the pupil should have achieved according to the scores of I.Q. and social indexes. A comparison was made between the 12 universally good school districts and the 12 poorest. The good districts—

— Spent 25 percent more per pupil—$150 more at that time.

— Were higher on Local tax effort and tax rates, even though they had higher equalized property valuations.

— Hired about five more professionals per 1,000 pupils.

— Had salary schedules which were better step-by-step, although the average teachers salaries were not higher.

— Had teachers who were more widely traveled, younger, better trained, and were recruited from a wider aea. This dynamic youth factor crops up in one study after another.

Austin D. Swanson Study

A national sample of schools was used by Swanson in 1961 to explore in depth aspects of the cost-quality relationship. Swanson found that:

— School district salaries were positively related to favorable teacher characteristics which, in turn, were related to the process criterion— the types of pupil experiences which went on.

— The staff ratio was also related to types of pupil experiences.

— Because the two factors—higher salaries or more teachers—compete for the districts' financial resources in districts of limited wealth, Swanson explored the question of which factor had the stronger payoff of pupil learning. Raising salary levels won.

Thus, the study found salary considerations take priority over staffing adequacy in a moderate-resource system.

Class Size Makes a Difference in Pupil Achievement

Many variables are present in the classroom—the pupils, the teacher, the subject matter, and the teaching method. The family and neighborhood variables are important too. A recent study of Baltimore City School pupils, by Furno and Collins, used test scores and socioeconomic data collected city-wide over five continuous years to determine the probability that small classes, 1–25, affected pupil achievement.

—When factors of I.Q., race, parental influence were held constant, pupils in the regular curriculum in the smallest class size (1–25) made significantly greater gains in achievement in reading and arithmetic than pupils in larger classes in a ratio of 7.3 to 1.

—The gains of small classes were higher for the Negro students. The probability for greater achievement for Negro students in small classes was 21.3 to 1. Students in special education (I.Q. of 79 and less) and in smaller classes made greater gain on standardized reading and arithmetic tests in a ratio of 12.7 to 1.

It becomes apparent in reviewing these studies and other studies that pupil achievement is strongly related—

—To pupil expenditure.

—To teachers' salaries.

—To teacher characteristics.

—To adequate staffing.

—To class size.

Statistics from the NEA show that the average elementary classroom teacher teaches a class of 27 pupils and the average secondary teacher teaches 26 pupils. But I know that 200,000 of my colleagues face 35, 40, or even more pupils every hour of every school day. Statistics show that the average classroom teacher's salary is $7,908 but 150,000 of my colleagues receive less than $5,500 a year. (Chart A) The average salary of $7,980 is earned by the average teacher who has been in the classroom for 12 years. Can we really believe that such a situation will attract and retain the best of each year's crop of college graduates? (Chart B)

Average starting salaries of classroom teachers compared with similar positions for bachelor-degree graduates in private industry are a little lower today than in 1965. (Chart C)

—It is estimated that the average starting salary for beginning teachers with a bachelor's degree in fall 1969 was $6,300.

—The average starting salary for men with bachelor's degrees in private industry is 42 percent higher than the average for teachers compared with 39 percent higher in 1965.

—When compared with beginning salaries for men graduates in 10 fields of specialization, teaching has not gained any competitive advantage since 1965. The lowest of the 10 is currently 25 percent higher than teachers. The highest is 56 percent higher!

—In 1968, beginning salaries for women with bachelor's degrees in industry were well above teachers' salaries in six of seven types of positions for which data is available—only secretaries with a bachelor's degree received less than beginning teachers and then only $121 a year less on the average.

With such trends is it any wonder that the percentage of men in teaching has leveled off to about 32 percent since 1965? Before that there had been a steady climb in the proportion of men in teaching for a number of years. (Chart D)

HR 10833 provides that not less than 50 percent of the $7.8 billion provided shall be used for teachers' salaries. The addition of $3 billion in additional salary funds would:

—Raise the average of the instructional staff salary in public elementary and secondary schools by $1,500 above increases from State and local efforts. *Note:* It takes $1 billion just to increase the average of instructional staff salaries by $500.

—Raise the starting salary of beginning teachers with the bachelor's degree from an estimated $6,300 in 1969–70 to an estimated $7,800 in 1969–70.

—Leave starting salaries for teachers still trailing salaries in private industry for men bachelor's degree graduates in 11 other professional areas for which data is available.

—Leave beginning salaries for teachers still trailing salaries for women bachelor's degree graduates in four of seven professional areas for which data is available: mathematics, chemistry, accounting, and engineering.

—Reduce the gap between starting salaries for bachelor's degree teachers and starting salaries for men bachelor's degree graduates in 11 other professional areas to about 20 percent. Without additional Federal funds, the gap would probably remain at about 40 percent.

—Increase the beginning salary for master's degree teachers from an estimated $6900 in 1969–70 to an estimated $8,400 in 1969–70.

—Still leave a gap between starting salaries for master's degree teachers and salaries for inexperienced men master's degree candidates in other professional areas; for example, salaries in engineering would be 36.7 percent higher than teachers and in accounting 32.7 percent higher.

Mr. Fischer has indicated some of the things that the funds provided for in H.R. 10833 might be used for. The teachers of this nation, through negotiation with employing school boards, are in a better position today to see that these things come about. We do not merely negotiate salaries; we also negotiate in the field of curriculum and program. Thanks to Federal stimulation through the National Defense Education Act, Elementary and Secondary Education Act, and the Education Professions Development Act, we as a group, along with parents and students, aspire to better things.

We as teachers know what the problems of the schools are. We are aware of the innovations and creative new approaches to learning that have been and are being developed because of the stimulation of the Federal program such as ESEA that the members of Congress have provided. We can realize the hopes that the members of this Committee share with us and with the parents and pupils of this nation's schools. But we cannot attain these goals unless we have the financial as well as the verbal backing of the nation's school board, which in a real sense you are.

We assure you that we as a profession are prepared and eager to meet the challenges that will be posed by the enactment of H.R. 10833.

CHART A.—CLASSROOM TEACHERS SALARIES BY STATE 1968-69

Region and state	Average salary of classroom teachers			Percent of all classroom teachers whose salaries fall in each of the following salary groups—							
	Elementary school	Secondary school	All teachers	Below $4,500	$4,500 to $5,499	$5,500 to $6,499	$6,500 to $7,499	$7,500 to $8,499	$8,500 to $9,499	$9,500 to $10,499	$10,500 and above
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
50 States and District of Columbia	$7,676	$8,160	$7,908	1.1	7.0	19.9	22.5	18.5	13.6	9.2	8.3
New England	7,812	8,086	7,941	.1	4.8	22.1	18.0	19.7	17.4	11.3	6.6
Connecticut	8,325	8,700	8,500	0	0	19.5	20.0	14.5	20.5	15.5	10.0
Maine	6,425	6,900	6,600	1.0	17.0	35.0	32.5	10.0	2.8	1.2	.5
Massachusetts	8,000	8,200	8,100	-----------	4.0	20.0	12.0	23.0	20.0	13.0	8.0
New Hampshire	6,919	7,215	7,058	0	4.6	37.0	23.3	17.7	14.0	2.8	.6
Rhode Island	8,167	7,973	8,070	0	2.0	9.0	20.0	38.0	19.0	10.5	1.5
Vermont	6,500	7,000	6,700	.4	21.5	34.0	24.0	12.7	5.0	2.2	.2
Mideast (includes District of Columbia)	8,363	8,816	8,585	0	1.0	16.1	19.0	19.2	15.0	13.5	16.1
Delaware	8,000	8,400	8,200	0	1.0	10.0	27.0	27.0	18.0	11.0	6.0
Maryland	8,593	9,055	8,815	0	1.0	8.0	14.0	25.0	19.0	18.0	15.0
New Jersey	8,227	8,690	8,425	0	1.0	15.0	23.6	15.6	13.7	15.0	16.1
New York	8,700	9,300	9,000	0	0	16.0	16.0	15.0	16.0	14.0	23.0
Pennsylvania	7,731	7,985	7,858	0	3.0	22.0	23.0	26.0	12.0	9.0	5.0
Southeast	6,634	6,998	6,802	3.3	16.9	28.3	26.3	17.0	4.7	2.7	.7
Alabama	5,750	6,025	5,875	9.0	30.0	41.0	16.0	4.0	0	0	0
Arkansas	6,077	6,312	6,155	8.0	30.4	33.6	15.7	8.3	2.0	1.0	1.0
Florida	(1)	(1)	8,130	.5	3.0	10.0	22.5	40.0	13.0	10.0	1.0
Georgia	6,967	7,047	7,002	4.0	5.0	30.0	36.0	19.0	5.0	1.0	0
Kentucky	6,325	6,725	6,550	3.0	17.0	29.0	40.0	8.0	2.9	.1	0
Louisiana	6,810	7,192	6,978	1.5	15.5	21.0	31.0	18.5	8.5	3	1.0
Mississippi	5,650	5,920	5,772	2.5	38.5	47.5	9.2	2.1	.2	0	0
North Carolina	6,747	6,953	6,852	1.5	9.0	39.0	39.0	10.7	.8	0	0
South Carolina	5,700	6,100	5,875	7.0	35.0	30.0	22.0	5.0	1.0	0	0
Tennessee	6,115	6,600	6,365	5.0	25.0	31.5	28.5	7.0	2.0	1.0	0
Virginia	7,025	7,625	7,300	1.0	13.0	18.0	15.0	34.0	8.0	7.0	4
West Virginia	6,270	6,550	6,400	4.0	20.0	35.0	30.0	9.0	2.0	0	0
Great Lakes	8,243	8,841	8,543	0.2	2.5	14.9	19.6	22.1	21.6	12.6	6.4
Illinois	8,800	9,500	9,100	0	0	10.0	16.0	23.0	26.0	15.0	10.0
Indiana	7,800	8,210	8,100	0	0	20.0	25.0	20.0	15.0	10.0	10.0
Michigan	9,087	9,499	9,288	0	0	8.0	15.0	17.0	30.0	20.0	10.0
Ohio	7,450	8,050	7,750	0.1	8.0	18.0	23.0	28.4	16.5	5.5	.5
Wisconsin	7,700	8,300	8,000	1.5	4.0	27.5	24.0	19.0	13.0	11.0	-----------

CHART A.—CLASSROOM TEACHERS SALARIES BY STATE 1968–69—Continued

Region and state (1)	Average salary of classroom teachers: Elementary school (2)	Secondary school (3)	All teachers (4)	Percent of all classroom teachers whose salaries fall in each of the following salary groups—: Below $4,500 (5)	$4,500 to $5,499 (6)	$5,500 to $6,499 (7)	$6,500 to $7,499 (8)	$7,500 to $8,499 (9)	$8,500 to $9,499 (10)	$9,500 to $10,499 (11)	$10,500 and above (12)
Plains	6,967	7,650	7,281	2.7	9.0	22.0	25.1	26.3	10.3	3.8	.9
Iowa	7,364	8,292	7,781	.9	4.9	12.1	31.7	38.2	7.4	4.2	.6
Kansas	6,867	7,256	7,062	0	6.2	42.3	31.3	12.8	7.2	.2	----------
Minnesota	7,750	8,225	8,000	0	0	15.0	20.0	32.0	20.0	10.0	3.0
Missouri	7,051	7,232	7,018	2.0	12.0	20.0	24.5	30.0	10.0	1.5	----------
Nebraska	6,124	7,112	6,585	7.0	18.8	29.2	25.7	13.1	4.6	1.2	.4
North Dakota	5,600	6,855	6,050	19.0	24.0	29.7	14.0	7.8	3.4	1.6	.5
South Dakota	5,050	6,300	5,800	10.9	27.2	28.9	16.5	11.5	3.8	.9	.3
Southwest	6,818	6,833	6,824	.7	11.0	25.4	39.9	11.1	8.1	2.0	1.8
Arizona	8,025	8,750	8,240	0	2.0	19.5	18.5	19.0	18.0	12.0	11.0
New Mexico	7,160	7,130	7,133	0	3.0	28.0	34.0	22.0	11.0	2.0	0
Oklahoma	6,548	6,750	6,641	0	20.0	46.0	27.0	6.0	1.0	0	0
Texas	6,600	6,638	6,619	1.0	11.0	21.0	47.0	10.0	8.0	1.0	1.0
Rocky Mountains	6,774	7,144	6,983	.8	17.2	23.9	31.4	17.5	6.2	2.5	.4
Colorado	6,985	7,300	7,150	.2	16.5	20.5	34.3	16.0	8.0	4.0	.5
Idaho	5,970	6,490	6,325	4.0	20.0	42.0	22.5	7.0	3.0	1.5	0
Montana	6,400	7,300	6,900	1.0	10.8	24.0	47.5	9.5	5.6	1.6	0
Utah	7,025	7,150	7,100	0	23.0	23.2	21.0	27.0	5.0	.6	.2
Wyoming	7,167	7,345	7,252	.2	12.8	12.2	28.0	35.4	6.2	2.8	2.4
Far West	8,825	9,573	9,165	0	.5	11.9	11.8	13.3	20.2	17.5	24.8
California	9,100	10,000	9,500	0	0.	10.0	10.0	10.0	19.0	20.0	31.0
Nevada	8,186	8,528	8,330	0	0	13.0	19.0	21.0	23.0	14.0	10.0
Oregon	7,789	8,191	7,965	0	5.0	11.5	20.0	26.0	28.0	9.0	.5
Washington	7,950	8,600	8,250	0	6.0	22.0	15.0	22.0	21.0	10.0	9.4
Alaska	10,451	10,388	10,427	0	0	0	.6	14.1	21.0	22.5	41.8
Hawaii	8,080	8,140	8,100	0	5.2	22.8	13.2	19.0	18.6	17.1	4.1

[1] Not available.

Source: NEA Research Division. Estimates of School Statistics, 1968–69. Research report 1968–R16. Washington, D.C., the Association, 1968. p. 31.

CHART B—PUBLIC SCHOOL CLASSROOM TEACHERS, SPRING 1969[1]

Item (1)	All teachers (2)	Elementary		Secondary		
		Total (3)	Women (4)	Total (5)	Men (6)	Women (7)
Age (in years)	39	41	42	37	36	38
Years of experience	12	13	14	11	11	11
Years in system of present employment	8	8	9	8	8	8
Average number of pupils taught per day		27	27	130	131	129
Classes per day—departmentalized				5	5	5
Salary[2]	$7,908	$9,676		$8,160		
Highest degree held (percent):						
None	4.5	7.8	8.7	1.1	1.8	0.3
Bachelor's	65.2	71.1	72.6	59.1	53.0	66.5
Master's	28.3	19.9	17.5	36.9	40.9	31.9
Education specialist or professional diploma based on 6 years of training	2.0	1.2	1.1	2.8	4.0	1.4
Doctor's	.1			.1	.2	

[1] Based on sample and subject to sampling variability.
[2] Estimated, not subject to sampling variability.

Source: National Education Association, Research Division. Annual survey of teachers, 1969, and estimates of school statistics, 1968–69.

CHART C—AVERAGE STARTING SALARIES OF CLASSROOM TEACHERS COMPARED WITH THOSE IN PRIVATE INDUSTRY, 1964–65, 1968–69, AND 1969–70

Position of subject field (1)	Average starting salaries		
	1964–65 (2)	1968–69 (3)	1969–70 (4)
Beginning teachers with bachelor's degree[1]	$4,707	$5,941	$6,300
Male college graduates with bachelor's degree:[3]			
Engineering	7,356	9,312	9,816
Accounting	6,444	8,424	8,844
Sales-marketing	6,072	7,620	8,028
Business administration	5,880	7,560	8,016
Liberal arts	5,712	7,368	7,884
Production management	6,564	7,980	8,580
Chemistry	6,972	8,520	9,048
Physics	7,200	8,916	9,360
Mathematics-statistics	6,636	8,412	8,892
Economics-finance	6,276	7,800	8,304
Other fields	6,360	7,656	8,064
Total, all fields (weighted average)	6,535	8,395	8,929
Women college graduates with bachelor's degree:[3]			
Mathematics-statistics	6,108	8,484	
General business	4,848	7,104	
Chemistry	6,468	8,532	
Accounting	5,664	8,304	
Home economics	5,112	7,056	
Engineering-technical research	7,224	9,672	
Secretary	4,560	5,820	

INDEX RELATIONSHIP TO STARTING SALARIES FOR TEACHERS

Position of subject field (1)	Average starting salaries 1964–65 (2)	 1968–69 (3)	 1969–70 (4)
Beginning teachers with bachelor's degree[1]	100.0	100.0	100.0
Male college graduates with bachelor's degree:[2]			
Engineering	156.3	156.7	155.8
Accounting	136.9	141.8	140.4
Sales-Marketing	129.0	128.3	127.4
Business Administration	124.9	127.3	127.2
Liberal Arts	121.4	124.0	125.1
Production Management	139.5	134.3	136.2
Chemistry	148.1	143.4	143.6
Physics	153.0	150.1	148.6
Mathematics-Statistics	141.0	141.6	141.1
Economics-Finance	133.3	131.3	131.8
Other fields	135.1	128.9	128.0
Total, all fields (weighted average)	138.8	141.3	141.7
Women college graduates with bachelor's degree:[3]			
Mathematics-statistics	129.8	142.8	
General business	103.0	119.6	
Chemistry	137.4	143.6	
Accounting	120.3	139.8	
Home economics	108.6	118.8	
Engineering-technical research	153.5	162.5	
Secretary	96.9	98.0	

[1] Estimated by NEA Research Division for school systems enrolling 6,000 or more.

[2] From annual reports of Frank S. Endicott, director of placement, Northwestern University. Salaries are based on offers made to graduates by approximately 200 companies located throughout the United States. 1969–70 salaries are based on offers made in November 1968 to men who will graduate in June 1969.

[3] Computed from data presented in the Endicott reports.

Source: NEA Research Division. Economic Status of the Teaching Profession, 1968–69. Research Report 1969–R5. Washington, D.C.: the Association, p. 51.

CHART D—INCREASE IN MEN TEACHERS

[As a percent of all classroom teachers, men teachers increased sharply through 1963–64; since 1963–64, the increase has leveled off]

School year (1)	Number of men classroom teachers Elementary (2)	 Secondary (3)	 Total (4)	Men teachers as a percent of classroom teachers in— Elementary (5)	 Secondary (6)	 Total (7)
1949–50			195,000			21.3
1958–59	110,496	242,936	353,432	13.7	50.2	27.3
1959–60	117,616	275,054	392,670	14.1	52.8	29.0
1960–61	120,250	192,497	411,747	14.2	52.6	29.3
1961–62	127,177	309,398	436,575	14.5	53.3	29.9
1962–63	129,161	236,670	455,831	14.5	52.8	30.1
1963–64	131,470	356,497	487,967	14.5	53.9	31.1
1964–65	136,758	378,402	515,160	14.7	53.5	31.5
1965–66	148,473	395,295	543,768	15.2	53.1	31.8
1966–67	148,024	417,315	565,339	14.7	53.5	31.6
1967–68	152,102	437,880	589,982	14.6	53.5	31.7
1968–69	157,221	455,543	612,764	14.7	53.5	31.9

Source: NEA Research Division. Estimates of School Statistics, 1968–69. Research Report 1968–R16. Washington, D.C.: the Association, 1968, p. 14.

STATEMENT OF GEORGE D. FISCHER, PRESIDENT, NATIONAL EDUCATION ASSOCIATION, WASHINGTON, D.C.

November 12, 1969

I am speaking for 2 million American educators, members of the national, State, and local education associations, who have a loud and clear message. The problems of American education can only be cured with money. Lots of it. Money alone will not solve the problems, but none can be solved without it. A good beginning figure is $7.8 billion dollars in Federal funds available in general Federal grants to the States for operating expenses for elementary and secondary schools. I mean $7.8 billion *more* than will be available if and when the FY 1970 appropriation for the Office of Education is enacted. We are urging you to authorize, beginning in FY 1971, a general aid bill providing $7.8 billion annually in new Federal funds.

Miss Sawaia has given a brief review of the more recent efforts to achieve general Federal support for education. Had any one of these bills been enacted—the Taft bill in 1946, the Hill bill in 1948, the Murray-Metcalf bill in 1959—the crisis that faces the many school systems of this nation, both urban and rural, would not be our concern here today.

We appreciate the efforts of the members of this Committee, both past and present, in developing and enacting such legislation as the National Defense Education Act, the Elementary and Secondary Education Act, the impact aid, higher education, student loans, special education, bilingual education, school library, vocational education legislation, and all the rest. We know that you men and women have the best possible motivations in developing these kinds of education aids. We in NEA have vigorously supported all of these categorical aids and I assure you we will continue to do so as directed by our policy-making bodies. These are good laws. They have created more opportunity for more children to receive more and better schooling. But they have not begun to scratch the surface of the problem of American education.

The existing Federal legislation has highlighted the fundamental weakness of American education—the lack of adequate money for a real forward thrust. Much of the Federal money in these programs, particularly ESEA, has been for planning grants, demonstration projects, and pilot programs. (Chart 1) They have served to whet the appetite of parents, pupils, and teachers for better education.

The Federal government has funded the creation of good design and rising expections—and then backed off. (Chart 2)

The turbulence in many local schools is the result not only of pressure for better salaries for teachers, but of pressures for better materials, lower class size, early childhood education, meaningful curriculum in vocational as well as academic studies.

We are dealing with a new kind of parent—one who will put the heat on the schools to see that his child gets a fair educational opportunity.

We are dealing with a new kind of pupil—one who is exposed nightly to TV programs with million dollar budgets. Small wonder he is turned off by obsolete curriculum; he has learned what participation means and is frustrated by large classes and overworked teachers.

We are dealing with a new kind of teacher who is claiming a fair share of the nation's prosperity in salary and benefits and a fair share of the responsibility for decision making about what goes on in the schools.

The parents, the students, and the teachers are venting their frustrations on local school authorities who are trapped in a morass of inadequate State and local revenue sources. Most of the existing Federal programs have gone down the road of categorical aid aimed to stimulate some particular education program, to develop and demonstrate new techniques.

What were the promises of Federal programs?

—A new technology for education.

—A revised, modern curriculum relevant to today.

—Teacher aides to relieve classroom teachers of routine chores.

—New methods of instruction.

—Specialized help for the handicapped pupil.

—A fair start for the child from an educationally-deprived background.

—More challenge for the gifted child.

—Equal educational opportunity for minorities.

—Improved professional training for teachers, administrators, and all fields of specialization in the teaching profession.

A little of all of these has trickled into the local schools in amounts so small that they are scarcely noticeable. I submit that we cannot achieve major improvement in local schools without a massive additional outlay of money.

In earlier efforts for massive Federal aid to education, the charge was made that State tax sources were not being utilized to the maximum reasonable extent. Today this charge is a myth. All but five States have a sales tax ranging as high as 6 percent. All but 12 States have enacted personal income taxes and all but six States have corporate income taxes. All local governments and some States have property taxes.

Through September of this year, 36 State legislatures raised tax rates. Twelve raised individual income rates; 14 raised corporate income rates; 12 raised sales taxes; 14, motor fuel; 19, tobacco; 16, alcohol. The 1969 State tax legislation is estimated to produce a record annual gain of $3.7 billion in new State revenue for all purposes. Gentlemen, this is effort any way you look at it. Together, these State and local tax resources provide 92.7 percent of the money spent on elementary and secondary schools.

The Federal contribution reached an all-time high in 1967–68 when it totalled an average of 8 percent of the elementary and secondary education budget. In subsequent years this percentage has decreased to 7.3 percent in 1969. (Chart 3) The nation has promised us more, but given us less. Federal policy has created a desire, has raised expectation, but has frustrated achievement.

We cannot accept the premise advanced by this and previous Administrations that Federal funds for education should be cut in the interests of stemming inflation. A recent Harris poll indicates that we as teachers are not alone in this position. According to 60 percent of those citizens polled, the *last* place to cut Federal spending should be in aid to education. The poll covered a cross section of Americans, young and old, rich and poor, urban and rural. Ranking behind education in things they would not cut from the Federal budget were pollution control (38 percent), poverty programs (34 percent), aid to cities (26 percent), and highway financing (24 percent.)

I hasten to add that I am aware that the members of this Committee do not control appropriations and that most of you are in the forefront of the fight for increasing funds for education and will continue this effort. We thank you for this on behalf of the children we teach. We ask now that you make a real breakthrough for the future of American education by enacting H.R. 10833.

The "General Education Assistance Act of 1969" was introduced by Rep. Perkins and Rep. Green. An identical bill was introduced by Rep. Olsen. This is a simple bill. It provides for an annual authorization of $100 per school-age child age 5 to 17 to be distributed to the States on a per-capita basis to be used for increasing teachers salaries and other current expenditures. For 1969–70 this would require $5.3 billion. In addition it provides for a supplemental grant of $2.5 billion to be distributed on the formula for Title I of the Elementary and Secondary Education Act (assuming a low-income factor of $3,000) to be used also for current expenditures. (Chart 4)

The funds would be distributed to the States by the U.S. Commissioner upon application by the States. The application must provide simply that 50 percent of the basic grant be used as the State sees fit for increasing teachers salaries. Miss Buford will have more to say about this. The remainder of this basic grant and the supplementary grant of $2.5 billion are to be used to meet urgent needs as defined by the local and State school authorities. The application must provide that Federal funds will not be commingled with State funds. The application must provide that, to the extent consistent with law, programs, and services designed to meet urgent needs must be available to children enrolled in private elementary and secondary schools which comply with the compulsory attendance laws of the State or are otherwise recognized by it through some procedure customarily used in the State.

The Commissioner may withhold funds after a hearing if he determines that a State fails to comply with the provisions of its own application. There is provision for judicial review. There is a prohibition against Federal control and against using the funds for any sectarian purpose.

As I said, this is a simple bill. It is based on the premise that at long last the Federal government will become a partner with the States and local communities in supporting a basically sound education program for every child in this nation. It leaves the control of education with the States and local communities where it belongs. It will not require large numbers of additional Federal employees to administer it. It does not contemplate the discontinuance of existing Federal programs. It does put the nation's money where the greatest need is—in the basic school budget."

We are aware that the present Administration, through Commissioner Allen, has recently enunicated a policy to stamp out illiteracy—without any money attached. The American school system has been engaged in stamping out illiteracy since its inception in the earliest days of our country. And despite inadequate financial support, we have done pretty well. According to the 1960 census, only 2.4 percent of the population over 14 years of age is illiterate. (Chart 5) It is interesting to note that 15 of the 18 States with a higher illiteracy rate are also the States with the lowest per-capita income. It would seem clearly that there is a strong correlation between illiteracy and financial ability to support education from existing financial resources. While we share the President's concern for illiteracy, we are not so naive as to believe it will be cured by press releases alone. The real remedies are money—and time. (Chart 6) Commissioner Allen likened the announcement against illiteracy as comparable to reaching the moon. We did not reach the moon in a paper airplane. We reached it by expending at least $25 billion of the taxpayers' money. It will take the same kind of commitment of the nation's wealth to eradicate illiteracy and ignorance. It can be done, but the place to start is here, now, today.

I referred earlier in this statement to the frustration of the Local and State school authorities who are faced on the one hand with angry demands for improvement of education and on the other hand with a taxpayers' revolt. In the 1967–68 school year, 37.5 percent of the bond issues for schools failed. In 1968–69 only 44.1 percent of the money requested in school bond issues received voter approval. This is a phenomenon that bodes well to increase. As a matter of fact, for the second quarter of 1969, ending June 30, the Investment Bankers Association reports that only 44.6 percent of the number of bond issues voted on passed, and only 25.7 percent of the money requested in bond issues received voter approval. (Chart 7) This situation is resulting in cases of the more affluent removing their children to private schools, leaving the middle- and lower-income students in the public schools. If this practice continues we will soon have a class society that is inimical to American tradition.

In previous hearings on previous bills, the fear has been expressed that massive Federal aid would result in the States and local communities decreasing their efforts to support education from tax revenues available to them. Experience shows that Federal aid as a matter of fact has a stimulating rather than depressing effect on State and Local effort. Since 1965–66, the year of the Elementary and Secondary Education Act, the increase in State-Local revenues for schools has been more than 17 times the increase in Federal revenues for schools. State and Local increase has been $7.9 billion while the Federal increase has been only $459 million since 1965–66. (Chart 8)

The pressures on State and local revenues for education funds compete with increasing local pressures for funds for pollution control, mass transit, urban renewal, and all the other vitally necessary unmet needs in communities across the land. Since many Federal programs, other than education, are on a matching basis, it is understandable that local political authorities find it easier to provide local funds that attract Federal funds for sewers, airport expansion, mass transit, etc., than it is to support increased local taxes for schools. H.R. 10833 requires a maintenance of effort by the State and local taxing authorities. As pressures increase for all of the other desirable items I just mentioned, it is essential that education be in a fair competitive situation in regard to Federal dollars.

The argument is advanced by some that a few States could do better than they are doing. But the question that faces you ladies and gentlemen of Congress is: Shall we as a nation deprive some of our children of an education because their parents choose—or by circumstance are forced—to live in these States, even though as adults they may later live elsewhere? Each child in this nation has a right to an education, even if those adults who determine the degree of support his education receives place more value on low taxes than they do on his future. Each child has a right to the support of his national government in providing him an education that will give him an equal chance to be a self-determining, productive, adult citizen.

Extensions of the regular school program are still available at bargain rates. Based on the U.S. average costs for current expenditures per pupil in 1968–69, each pupil-hour of schooling costs 58 cents. A six-and-a-half-hour day costs $3.77 per pupil and a five-day week costs $18.85.

The national average, and the average in the highest and lowest states are illustrated as follows:

		New York	Mississippi
U.S. average:			
Per hour	$0.58	$0.88	$0.31
Per day	3.77	5.72	2.02
Per week	18.85	28.60	10.10

The need for additional funds from both the traditional local and State sources as well as the Federal government can be illustrated by the following list:

Reduce class size in large city schools

The cost of reducing class size is estimated at about $3 billion just to employ the additional teachers (285,000) required for a maximum class size of 25 pupils in elementary and secondary schools.

Summer school programs

An additional $3.8 billion is required to provide 10 additional weeks of summer school for 20 million pupils.

Pre-schooling programs

Adequate pre-school programs require at least $1 billion additional for a respectable beginning in this kind of program.

The important thing is that the needs differ, school district to school district and State to State. School needs cannot be met by piecemeal attack on each and every need without destroying State and local responsibility.

The importance of early childhood education has been repeatedly demonstrated in recent years by research studies and by Project Head Start. Effective early childhood programs can often obviate the necessity for expensive remedial education programs in the later years. However—

- 34.6 percent of all U.S. first-graders last year did not have the opportunity to attend a public school kindergarten.
- Half of all U.S. public school systems with elementary grades have no kindergarten program.

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- In 1968 fewer than 10 percent of the first-graders in the southeastern states had the opportunity to attend a public school kindergarten. Almost 1 million American 5-year-olds each year in the Southeast alone are denied a chance for the educational boost of a good kindergarten. Alabama, Arkansas, Mississippi, South Carolina, and Idaho reported no public school kindergartens in the fall of 1968.

We believe the case is clear. The problems facing our local and State education systems are tremendous, but they are not insurmountable. What is required is a commitment on the part of this nation, as represented by the Congress of the United States, to acknowledge priority which the education of our people must have if democracy is to survive.

We, as teachers, are committed to this principle. We did not become teachers in order to get rich—for anyone who chose education as a profession in order to achieve material affluence is a fool. We did not choose teaching as a career because it is an easy life—for teaching is the most physically, emotionally, and mentally exhausting job anyone can have. We became teachers, and remain teachers, because we care. We care about kids, we care about this country, and we care about humanity.

We ask that you and your colleagues in Congress join us in this commitment.

CHART 1—MAJOR FEDERAL AID PROGRAMS HAVE DECLINED

The 1969 fiscal year authorization for Federal programs for elementary and secondary education was $3,249,059,274—more than double the estimated expenditures of $1,475,993,000.

Federal program expenditures for elementary and secondary education rose 29.6 percent from $1,235,190,000 in fiscal 1966 to $1,600,568,000 in fiscal 1968. In fiscal 1969 the expenditures dropped $124,575,000 or 7.8 percent to a total of $1,475,993,000.

Major cutbacks were made in programs for

- Educationally-deprived children—down 5.4 percent or $63,746,000
- Supplementary educational services—down 9.8 percent or $17,934,000
- Library resources—down 49.5 percent or $49,085,000
- Guidance, couselling, and testing—down 30.5 percent or $7,460,000

FEDERAL EXPENDITURES FOR ELEMENTARY AND SECONDARY EDUCATION

[In thousands of dollars]

Program (1)	Fiscal 1966 (2)	Fiscal 1967 (3)	Fiscal 1968 (4)	Estimates, fiscal 1969 (5)
1. Educationally deprived children	958, 811	1, 052, 593	1, 186, 873	1, 123, 127
2. Dropout prevention				5, 000
3. Bilingual education				7, 500
4. Supplementary educational services	46, 128	162, 397	182, 810	164, 876
5. Library resources	100, 000	101, 875	99, 085	50, 000
6. Guidnce, counseling, and testing	24, 463	24, 460	24, 460	17, 000
7. Equipment and minor remodeling	81, 399	81, 977	77, 883	78, 740
8. Strengthening State departments of education	24, 389	29, 218	29, 457	29, 750
Total	1, 235, 190	1, 452, 520	1, 600, 568	1, 475, 993

Source: Budget of the United States Government Appendixes: 1968, p. 406; 1969, p. 395; 1970, p. 427.

CHART 2—THE FEDERAL AID LAG

Since the Elementary and Secondary Education Act went into effect in 1965–66, new revenues for public schools total $8,386,890,000: $458,593,000 from the Federal level and $7,928,296,000 from State and local tax sources. State and local tax sources added $17 for every $1 from the Federal government.

REVENUES FOR PUBLIC ELEMENTARY AND SECONDARY SCHOOLS (IN THOUSANDS)

School year 1	Total 2	Federal 3	State 4	Local 5
1965 to 1966	$25,356,858	$1,996,954	$9,920,219	$13,439,686
1966 to 1967	$27,256,043	$2,162,892	$10,661,582	$14,431,569
1967 to 1968	$31,092,400	$2,472,464	$12,231,954	$16,387,982
1968 to 1969	$33,743,748	$2,455,547	$13,729,344	$17,558,857
Increase 1965–66 to 1968–69:				
Amount of increase	$8,386,890	$458,593	$3,809,125	$4,119,171
Percent of increase	33.1	23.0	40.0	30.6
Share of increase (percent)	100.0	5.5	45.4	49.1

Sources: U.S. Department of Health, Education, and Welfare, Office of Education. "Statistics of State School Systems, 1965–66." Washington, D.C.: Government Printing Office, 1968. p. 11.

National Education Association, Research Division. "Estimates of School Statistics, 1966–67 and 1968–69." Research Reports 1966–R20 and 1968–R16. Washington, D.C.: the Association, 1966 and 1968.

CHART 3—THE FEDERAL SHARE INCREASED TO 1967–68—THEN DECLINED

There had been very little change in the shares of the three levels of government in school support up to 1965–66. That year the Federal share almost doubled, rising 4.4 percent to 7.9 percent in 1965–66 and remaining at about the same share in 1966–67 and 1967–68, but declining slightly in 1968–69.

PERCENT OF REVENUE RECEIVED FROM FEDERAL, STATE, AND LOCAL SOURCES FOR PUBLIC ELEMENTARY AND SECONDARY SCHOOLS

School year (1)	Federal sources (2)	State sources (3)	Local sources (4)
1949–50	2.9	39.8	57.3
1959–60	4.4	39.1	56.5
1961–62	4.3	38.7	56.9
1963–64	4.4	39.3	56.4
1965–66	7.9	39.1	53.0
1966–67	7.9	39.1	53.0
1967–68	8.0	39.3	52.7
1968–69	7.3	40.7	52.0

Sources: U.S. Department of Health, Education, and Welfare, Office of Education. Statistics of State School Systems, 1965–66. Washington, D.C.: Government Printing Office, 1968. p. 11. National Education Association, Research Division. Estimates of School Statistics, 1968–69. Research Report 1968–R16. Washington, D.C.: the Association, 1968. p. 18.

CHART 4.—GENERAL EDUCATION ASSISTANCE ACT OF 1959

			Supplemental equalization				
			Eligible population 5 to 17 years ($3,000 income level)				
State (1)	Estimated population, 5 to 17 years, July 1968 (2)	Basic amount, $100 per child (3)	Number (4)	Percent of U.S. total (5)	Equalization amount (6)	Total amount (7)	Total amount per child (8)
labama	959,000	95,900,000	351,552	3.78473785	91,779,893	187,679,893	195.70
laska	87,000	8,700,000	10,448	.11248106	2,727,666	11,427,666	131.35
rizona	472,000	47,200,000	66,352	.71433224	17,322,557	64,522,557	136.70
rkansas	514,000	51,400,000	217,809	2.34488772	56,863,527	108,263,527	210.63
alifornia	4,927,000	492,700,000	578,332	6.22620555	150,985,485	643,685,485	130.64
olorado	560,000	56,000,000	67,517	.72687439	17,626,704	73,626,704	131.48
onnecticut	748,000	74,800,000	63,547	.68413417	16,590,254	91,390,254	122.18
elaware	147,000	14,700,000	14,009	.15081807	3,657,338	18,357,338	124.88
istrict of Columbia	195,000	19,500,000	33,308	.35858720	8,695,740	28,195,740	144.59
lorida	1,550,000	155,000,000	258,146	2.77914772	67,394,332	222,394,332	143.48
eorgia	1,240,000	124,000,000	382,452	4.11740101	99,846,975	223,846,975	180.52
awaii	220,000	22,00,000	17,481	.18819692	4,563,775	26,563,775	120.74
daho	201,000	20,100,000	25,764	.27737002	6,726,223	26,826,223	133.46
inois	2,839,000	283,900,000	346,147	3.72654871	90,368,806	374,268,806	131.83
ndiana	1,358,000	135,800,000	143,979	1.55004884	37,588,684	173,388,684	127.68
owa	729,000	72,900,000	134,292	1.44576056	35,059,694	107,959,694	148.09
ansas	606,000	60,600,000	86,466	.93087550	22,573,731	83,173,731	137.25
entucky	844,000	84,400,000	286,095	3.08004101	74,690,995	159,090,995	188.50
ouisiana	1,066,000	106,600,000	313,737	3.37762920	81,907,508	188,507,508	176.84
aine	256,000	25,600,000	39,690	.42729453	10,361,892	35,961,892	140.48
aryland	993,000	99,300,000	117,601	1,26606862	30,702,164	130,002,164	130.92
assachusetts	1,351,000	135,100,000	138,696	1.49317313	36,209,449	171,309,449	126.80
ichigan	2,416,000	241,600,000	273,425	2.94363835	71,383,230	312,983,230	129.55
innesota	1,021,000	102,100,000	156,288	1.68256505	40,802,203	142,902,203	139.96
ississippi	678,000	67,800,000	338,751	3.64692487	88,437,928	156,237,928	230.44
issouri	1,167,000	116,700,000	212,278	2.28534209	55,419,546	172,119,546	147.49
ontana	197,000	19,700,000	27,023	.29092416	7,054,911	26,754,911	135.81
ebraska	385,000	38,500,000	67,511	.72680980	17,625,138	56,125,138	145.78
evada	119,000	11,900,000	6,580	.07083895	1,717,845	13,617,845	114.44
ew Hampshire	180,000	18,000,000	14,939	.16083026	3,900,134	21.900,134	121.67
ew Jersey	1,749,000	174,900,000	174,558	1.87925618	45,571,962	220.471,962	126.06
ew Mexico	312,000	31,200,000	64 227	.69145491	16,767,782	47,967,782	153.74
ew York	4,355,000	435,500,000	729,591	7,85462940	190,474,763	625,974,763	143.74
orth Carolina	1,363,000	136,300,000	493,915	5,31738917	128,946,688	265,246,688	194.61
orth Dakota	176,000	17,600,000	42.923	.46210035	11,205,934	28,805,934	163.67
hio	2,852,000	285,200,000	299,180	3.22091148	78,107,104	363,307,104	127.39
klahoma	634,000	63,400,000	148,404	1,59768750	38,743,922	102,143,922	161.11
regon	511,000	51,100,000	51,968	.55947700	13,567,317	64,667,317	126.55
ennsylvania	2,902,000	290,200,000	422,622	4.54986312	110,334,181	400,534.181	138.02
hode Island	218,000	21,800,000	28.018	.30163613	7,314,676	29.114.676	133.55
outh Carolina	750,000	75.000,000	298,446	3.21300938	77,915,478	152,915,478	203.89
outh Dakota	187,000	18.700,000	52,270	.56272827	13,646,161	32.346,161	172.97
ennessee	1,015,000	101,500,000	337,418	3.63257406	88,089.921	189,589,921	186.79
exas	3,028,000	302.800,000	653.199	7.03220855	170,531,057	473,331,057	156.32
tah	316,000	31,600,000	24,211	.26065074	6,320,781	37,920,781	120.00
ermont	113.000	11,300,000	18,480	.19895195	4,824,585	16,124,585	142.70
irginia	1,206.000	120,600,000	276,297	2.97455772	72,133,025	192.733,025	159.81
ashington	863.000	86,300,000	82,927	.89277534	21,649,802	107,949,802	125.09
est Virginia	462,000	46,200.000	155,717	1.67641778	40,653,131	86,853,131	187.99
isconsin	1,144.000	114,400,000	134,283	1.44566367	35,057,344	149,457,344	130.64
yoming	90,000	9,000,000	9,806	.10556942	2,560,059	11,560,059	128.45
U.S. total	52,271,000	5,227,100.000	9,288,675	99.99999967	2,425,000,000	7,652,100,000	146.39
utlying area	952,000	95,200,000			75,000,000	170,200,000	178.78
Grand total	53,223,000	5,322,300,000			2,500,000,000	7,822,300,000	146.97

Source: National Education Association Research Division, Nov. 6, 1969.

CHART 5—ILLITERACY BY STATE

Social and ethnic factors affect the States' percents of illiteracy. The States with low personal income and high rates of illiteracy can little

afford to finance the programs to correct illiteracy in the adult population and to prevent illiteracy in the young.

ILLITERACY AND PER CAPITA INCOME

State (1)	Population 14 years old and older Illiterate in 1960 (percent) (2)	Per Capita income, 1968 (3)	State (1)	Population 14 years old and older Illiterate in 1960 (percent) (2)	Per Capit income, 196 (3
Iowa	0.7	$3,265	Pennsylvania	2.0	$3,41
Idaho	.8	2,668	Connecticut	2.2	4,25
Oregon	.8	3,317	Massachusetts	2.2	3,83
Kansas	.9	3,303	New Jersey	2.2	3,95
Nebraska	.9	3,239	Rhode Island	2.4	3,54
South Dakota	.9	2,876			
Utah	.9	2,790	U.S. average	2.4	3,42
Washington	.9	3,688			
Wyoming	.9	3,190	Florida	2.6	3,19
Minnesota	1.0	3,341	West Virginia	2.7	2,47
Montana	1.0	2,942	New York	2.9	4,15
Nevada	1.1	3,957	Alaska	3.0	4,14
Vermont	1.1	3,072	Kentucky	3.3	2,64
Indiana	1.2	3,412	Virginia	3.4	3,06
Wisconsin	1.2	3,363	Tennessee	3.5	2,57
Colorado	1.3	3,340	Arkansas	3.6	2,32
Maine	1.3	2,824	Arizona	3.8	3,02
New Hampshire	1.4	3,259	New Mexico	4.0	2,65
North Dakota	1.4	2,730	North Carolina	4.0	2,66
Ohio	1.5	3,509	Texas	4.1	3,02
Michigan	1.6	3,675	Alabama	4.2	2,33
Missouri	1.7	3,257	Georgia	4.5	2,78
California	1.8	3,968	Mississippi	4.9	2,08
Illinois	1.8	3,981	Hawaii	5.0	3,57
Delaware	1.9	3,795	South Carolina	5.5	2,38
Maryland	1.9	3,742	Louisiana	6.3	2,6
Oklahoma	1.9	2,880			

Source: U.S. Department of Commerce, Bureau of the Census. "Estimates of Illiteracy, by States: 1960." Current popu lation reports, series P-23, No. 8. Washington, D.C., Government Printing Office, Feb. 12, 1963, 2 pages. U.S. Departme of Commerce, Office of Business Economics. "Survey of Current Business, August 1969."

Chart 6—Characteristics of 6,527,000 Persons Who Have Les Than Five Years' Schooling (Functional Illiterates)

3,433,000 are men.
3,094,000 are women.
4,563,000 are white.
1,964,000 are nonwhite.
279,000 are from 14 to 24 years of age.
350,000 are from 25 to 34 years of age.
683,000 are from 35 to 44 years of age.
971,000 are from 45 to 54 years of age.
1,269,000 are from 55 to 65 years of age.
2,975,000 are 65 and over.

- Of the 6,248,000 persons with less than five years of schooling 3,227,000 live in the South and 3,021,000 in the Northeast North Central and West.
- 0.8 percent of the population 14 to 24 years stopped school befor reaching Grade 5.
- 15.6 percent of the population 65 and over stopped school befor reaching Grade 5.

Source: U.S. Department of Commerce, Bureau of the Census. *Educational Attainment* *March 1968*. Current Population Reports. Table 1. pp. 9–13.

CHART 7—PUBLIC SCHOOL BOND ELECTIONS 1964–65—1968–69

Fiscal year	Par value of issues voted on in millions		Percent approved based on dollar value
	Total	Approved	
1	2	3	4
1964–65	$3, 129	$2, 485	79. 4
1965–66	3, 560	2, 652	74. 5
1966–67	3, 063	2, 119	69. 2
1967–68	3, 740	2, 338	62. 5
1968–69	3, 314	1, 460	44. 1
1969 (2d quarter)	1, 323	340	25. 7

Sources: Bond Sales for Public School Purposes, U.S. Office of Education OE 22009 annual series for fiscal years 1961–62 thru 1967–68.

2d quarter of 1969 (April, May, and June) from Investment Bankers Association Municipal Statistical Bulletin No. 52. August 1969. Table 8.

CHART 8.—INCREASE IN SCHOOL REVENUE RECEIPTS FROM 1965–66 TO 1978–69

State	Amount of increase in thousands of dollars			
	Federal	State	Local	Total
(1)	(2)	(3)	(4)	(5)
Alabama	−857	27, 359	30, 101	56, 603
Alaska	4, 721	6, 656	10, 217	21, 594
Arizona	−4, 129	82, 208	−14, 799	63, 280
Arkansas	−930	24, 918	14, 868	38, 856
California	74, 082	81, 421	327, 001	482, 504
Colorado	1, 696	17, 702	65, 806	85, 204
Connecticut	10, 093	44, 019	142, 350	196, 462
Delaware	2, 499	−2, 689	6, 385	6, 195
District of Columbia	38, 493	----------	43, 301	81, 794
Florida	3, 900	235, 678	40, 220	279, 798
Georgia	−1, 714	106, 921	22, 635	127, 842
Hawaii	81	42, 076	1, 885	44, 042
Idaho	3, 704	8, 276	7, 267	19, 247
Illinois	21, 931	156, 510	262, 670	441, 111
Indiana	5, 314	57, 265	154, 127	216, 706
Iowa	−6, 313	110, 169	7, 690	111, 546
Kansas	2, 559	25, 395	78, 454	106, 408
Kentucky	20, 232	68, 362	48, 350	136, 944
Louisiana	23, 986	112, 733	54, 336	191, 055
Maine	202	22, 610	16, 465	39, 277
Maryland	11, 597	113, 800	150, 765	276, 162
Massachusetts	26, 316	49, 907	229, 335	305, 558
Michigan	17, 378	236, 856	413, 467	667, 701
Minnesota	19, 680	80, 171	41, 492	141, 343
Mississippi	24, 279	52, 604	11, 687	88, 570
Missouri	−2, 961	64, 571	36, 240	97, 850
Montana	−558	7, 459	19, 622	26, 523
Nebraska	240	24, 685	−1, 756	23, 169
Nevada	−671	3, 995	18, 766	22, 090
New Hampshire	49	−596	28, 798	28, 251
New Jersey	1, 199	170, 342	210, 164	381, 705
New Mexico	2, 153	18, 410	13, 569	34, 132
New York	58, 471	642, 573	449, 327	1, 150, 372
North Carolina	22, 086	103, 987	12, 000	138, 073
North Dakota	−218	5, 760	14, 290	19, 832
Ohio	122	193, 213	182, 738	376, 074
Oklahoma	1, 043	34, 263	27, 116	62, 422
Oregon	12, 186	−4, 782	116, 168	123, 572
Pennsylvania	−2, 617	276, 471	243, 236	517, 090
Rhode Island	3, 653	17, 369	18, 195	39, 217
South Carolina	1, 304	50, 764	22, 574	74, 642
South Dakota	3, 991	1, 018	4, 127	9, 136
Tennessee	−4, 543	56, 932	72, 807	125, 196
Texas	33, 495	90, 616	117, 995	242, 106
Utah	−2, 221	22, 721	9, 889	30, 389
Vermont	428	11, 341	21, 988	33, 757
Virginia	14, 361	113, 964	113, 255	241, 580
Washington	4, 014	73, 266	27, 803	105, 083
West Virginia	−4, 010	22, 042	14, 617	32, 649
Wisconsin	9, 683	52, 897	154, 368	216, 948
Wyoming	9, 114	−5, 083	5, 199	9, 230
U.S. total	458, 593	3, 809, 125	4, 119, 171	8, 386, 890

Sources: U.S. Department of Health, Education, and Welfare, Office of Education. Statistics of State School Systems, 1965–66. Washington, D.C., Government Printing Office, 1968. P. 11. National Education Association, Research Division. Estimates of School Statistics 1966–67 and 1968–69. Research Reports 1966–R20 and 1968–R16. Washington, D.C., the Association, 1966 and 1968.

STATEMENT OF ROBERT E. McKAY, ASSISTANT EXECUTIVE SECRETARY, CALIFORNIA TEACHERS ASSOCIATION, BURLINGAME, CALIF.

November 12, 1969

I am speaking in a dual role. I am privileged, with my colleagues of the National Education Association, to support House Resolution 10833, authored by the distinguished Chairman of the Education and Labor Committee.

In addition I voice the unqualified backing for the bill of the California Teachers Association which, with its 170,000 members, is the largest State affiliate of the NEA and the largest state-wide professional organization of any kind in the United States.

First, let me express the gratitude of the organizations I represent and, I am sure, educators everywhere for the tremendous strides the Congress has taken, particularly in the last four years, towards meeting the financial needs of the public schools of this nation.

Thanks to the perception and dedication of members of this committee and friends of education on both sides of the aisle in both houses, the Federal government is beginning to assume its responsibility for the education of the young people of this country, wherever they may live and whatever their economic surroundings.

I am particularly proud of the action of the overwhelming majority of the members of this House in recent weeks in voting full funding of the important education programs provided for in the 1970 Labor-HEW appropriations bill. It took courage and a strong belief in the importance of education to add more than $1 billion to the Administration's education budget—in the face of potent pressure to sacrifice our children to the axe of economy. You have our admiration and gratitude.

To one of your colleagues, not a member of this committee, I say a special thanks, on behalf of the teaching profession, for his aggressive leadership in the dramatic and successful fight for funds. I, of course, refer to Representative Jeffery Cohelan of California. His devotion to the cause of education is deeply appreciated.

The bill which I urge you to support, H.R. 10833, is of monumental importance. It involves a lot of money, $2.8 billion a year, and is revolutionary in its simplicity. It is aimed at correcting one of this country's cancerous conditions, the alarming deterioration of the public schools. It proposes to provide the schools, without strings or the burdens of bureaucracy, $100 per pupil per year to help meet the pressing needs which cannot be met from state and local resources.

In view of the already sizeable Federal spending for schools—$4.2 billion for Fiscal 1970 alone, as voted by the House—it may well be asked how the proponents of H.R. 10833 can justify the authorization of an additional $6 billion or more a year.

I am quite familiar with and appreciative of the extent of Federal financing of educational activity. I know of and have been involved in the development of some of the categorical aid programs without which the schools would now be in even more serious difficulties.

It was my privilege to serve as Chairman of the NEA Legislative Commission in 1965, when major advances were made in meeting the needs of education. In that role I testified before this committee in support of President Johnson's proposal which became the Elementary and Secondary Education Act of 1965 (ESEA)—truly landmark legislation.

That bill and other highly desirable ones which have since been enacted have zeroed in on some of the special problems, such as those of the educationally and economically handicapped. They are good and necessary, but they are not enough.

Broad-scale general Federal support is needed if the schools are to survive and meet the challenges of today's society. They are woefully lacking in the financial resources required to establish and maintain quality education for an expanding enrollment in an inflationary economy. States are strapped for money and local property owners generally bear a tax burden out of all proportion to the share of the nation's wealth which their homes and holdings represent.

Only the Federal government can tap the total resources of our economy to meet the national needs of education. This we ask you to do.

The financial plight of the schools cannot, of course, be considered in a vacuum. It must be examined as part of a broader dilemma—how to meet the needs for services which government can justifiably be expected to provide without confiscatory or ruinous taxes. The money problems of the schools must be considered then along with those of the municipalities and the States. They are inextricably intertwined one with the other. School needs cannot be met without regard to the requirement of funds for health, housing, welfare, transportation, and other services close to the people.

The cumulative load of property taxes is increasingly unbearable in community after community. In Los Angeles, for example, the total tax rate for all purposes is $11.05 per $100 of assessed valuation. Other areas in California have rates in excess of $12, with school taxes alone running as high as $7 per hundred. San Francisco property taxpayers, already shouldering an extremely high burden, are faced with an estimated rate of $20 per $100 in 10 years, unless relief is found.

The financial problems facing the schools in my home State of California are illustrative, if not entirely typical, of those confronting schools across the country. They exist in varying degrees of intensity in all other States.

California, with its more than 20 million people, is the most populous of the States, having outgrown New York several years ago. Although the birth rate has fallen somewhat, the State's population continues to climb at the rate of nearly three and a half million people a year. That means the population of California increases by more than 9,500 people each day of the year. Within three years, it is estimated, the State will grow another 10 million in population.

California continues to be the focal point of the greatest mass migration in the history of the world. Her population more than doubles every 20 years, with people streaming across the borders of the Golden State by the thousands, there to make their homes. They take to California their hopes and aspirations—and their children. Many of them have little of material wealth; some are jobless and unskilled and not in a position to contribute to the economic base upon which local school support must depend. A high percentage of those who migrate to

California are under age 20. If they do not have children when they arrive, they soon produce them, obviously in quantity.

The impact on the schools is shattering.

The flow of low-income migrants to my State has been increased notably in the last two years. Significantly, the volume rose following the decision of the United States Supreme Court eliminating the prior residency requirement for eligibility to receive State welfare benefits. California, with the highest per-capita expenditure of funds for public welfare, more than double the national average, is a Mecca for the needy. The State Department of Social Welfare estimates that the Supreme Court decision has added nearly $20 million a year to California's welfare costs.

The increased costs of that decision to education have not yet been computed, but they are considerable and may be expected to rise rapidly. Many of those moving to California to avail themselves of the higher welfare payments are of minority races with a considerably higher than average number of children per family. This situation has served to make even more acute the financial problems of the State's schools, especially in the ghetto areas of the big cities. Eighty-six percent of California's residents now live in urban areas.

School enrollment has been more than keeping pace with the population increase. Each September there are nearly 150,000 pupils waiting on the school doorstep who were not there in June. We now have in California schools more than five and a half million pupils, not counting those enrolled in four-year institutions of higher learning.

How has California coped with the problems of inadequate finance? Tragically, one of the unavoidable steps it has taken is to crowd more and more pupils into each classroom, the undesirable effects of which are obvious. Aside from Mississippi and four other States, my State, I regret to say, has the most crowded classrooms in the country, an average of 28 in the elementary schools and as many as 35 pupils per classroom in some. For elementary classes a maximum of 25 pupils is considered appropriate. Above that figure children do not receive the individual attention deemed desirable.

Although California's school finance problems are state-wide in nature, with many rural districts struggling to provide an acceptable educational program, perhaps the most dramatic examples are to be found in the urban areas.

The sprawling Los Angles School District, second in size only to New York City, faces problems that are king-sized, continuing, and critical.

The Los Angeles district enrolls more than 770,000 pupils, about 15 percent of the total enrollment of the State.

Its 579 schools become more crowded by the day, with 13,675 pupils already on double sessions. Rejection by the voters of necessary bond issues has ground the classroom construction program to a virtual halt. To keep pace with need the district requires an outlay of about $1 million a week for school construction.

In addition, it needs an estimated $64 million to replace some 534 school buildings, most of them portable classrooms constructed prior to the 1933 earthquake and which do not measure up fully to the safety standards required by State law. A defeated bond issue had proposed that $39 million be allocated to this need.

Despite its tax rate of $4.82 per $100 of assessed valuation, the Los Angeles School District is unable to provide adequate facilities and upplies to make it possible for its 25,000 full-time teachers to do the uality education job they recognize as their responsibility. The district's $703 million a year budget, sizeable though it is, simply fails o meet the needs.

Los Angeles typifies the plight of urban school districts across the ountry. Because of population trends and economic conditions, they ace the double-barreled problem of high costs caused by the concentration of minority race pupils in low-income ghetto-type areas and adequate and decreasing sources of revenue.

Minority group students now make up nearly half of the youth in os Angeles elementary and secondary schools. As of last February e totals for individual racial and ethnic groups were 147,748 Negroes 22.6 percent), 130,450 of Spanish surnames (20.0 percent), 23,248 rientals (3.6 percent), and 1,204 American Indians (0.2 percent).

The number of minority group students in Los Angeles is increasing t the rate of about 6 percent a year, with the percentage of Negro oungsters in the schools growing faster than other minority groups.

Unique educational and financial problems flow from this trend. urrently more than 82,000 children attending the Los Angeles public hools come from Aid For Dependent Children (AFDC) family nits with incomes of less than $2,000 per year. This is the largest ncentration of such economically- and culturally-disadvantaged ildren in any school district in California.

It is an unfortunate fact that many such children fall far below the tellectual and learning levels of other children. They require special d costly extra attention.

Urban communities have a higher-than-average number of severely aladjusted pupils, most of whom have police records. In Los Angeles has become necessary to establish and maintain specialized schools rehabilitate such students for constructive citizenship. Per pupil sts in these schools are nearly double those in regular school, curntly $1,052 as against $571.

Protection of pupils, staff, and property, though normally condered a function of law enforcement agencies, has become in part a hool district function, costing Los Angeles schools an extra half illion dollars a year.

Among the extra-cost items resulting from conditions peculiar to e urban area—items which have added more than $32 million a ar to expenditures in the Los Angeles district—are the following:

- Education of non-English speaking students.
- Transiency and population mobility.
- Special programs for low-ability pupils, including the educable mentally retarded.
- Truancy and child welfare services.
- Remedial reading programs.
- Smog control.

The financial problems of Los Angeles are duplicated in varying grees in Oakland, San Francisco, Richmond, and many other urban mmunities in California. They exist everywhere in the United States.

Help is needed desperately. Local resources cannot met the crisis. nly the Federal government, with its greater access to the wealth of e nation, can save the schools from ultimate disaster.

On behalf of the National Education Association and the Californi Teachers Association, I respectfully urge this committee to examin carefully the needs and to consider favorably HR 10833 as a desirabl and practical means of meeting those needs.

I deeply appreciate having had this opportunity of discussing wit you what I consider to be one of the most crucial issues facing th nation, the adequate financing of our system of public education.

PRESENTATION OF JOSEPHINE SAWAIA, CHAIRMAN NATIONAL EDUCATION ASSOCIATION LEGISLATIV COMMISSION, SCOTTSDALE, ARIZ.

November 12, 1969

The National Education Association Legislative Commission is cor posed of 11 members of the NEA, appointed by the President for ove lapping four-year terms. The commission is charged with the respo sibility to develop legislative programs implementing the policy NEA as established by the Delegate Assembly through resolutio The Commission also analyzes various bills before the Congress relat to education and the concerns of the educators who comprise the o million membership of NEA, and enunciates the position of the Ass ciation on these proposals in light of the established policy.

Because of the great importance of the educational issues facing t distinguished Subcommittee and the Congress, we have asked t President of NEA, Mr. George D. Fischer and the President of t Association of Classroom Teachers, Miss Betty Buford, to present t Association's views to the Subcommittee. In addition, we have includ on the panel Mr. Robert McKay of the California Teachers Assoc tion, a former Chairman of the Commission, as a spokesman represe ative of the State associations which are affiliated with the NE

The NEA, since it was founded in 1857, has contended that t Federal government, along with the States and local communities, h a responsibility to support education. In the more recent past it shou be recalled that the NEA mounted a vigorous campaign in 1946 support of the proposal of the late Senator Robert Taft of Ohio th the Federal government has a responsibility, through legislation, provide funds to the States adequate to guarantee every child, regar less of where he resided, a basically sound educational opportuni About the same time—in the mid-1940's—the efforts, led by form Senator Lister Hill of Alabama, to earmark the income from offsh oil for education were advanced. Both efforts failed, foundering the emotional issues of church-state and integration. In the late 195 an upsurge of interest centered around the Murray-Metcalf bill whi would have provided $25 per child, rising in four years to $100 p child for the States to use to equalize the costs of school constructi and teachers salaries. A version of this proposal passed the Sena but died in the House Rules Committee. Again the major stumbli blocks were the church-state issue, integration, and an alleged fe of Federal control.

Circumstances well known to this Committee developed so that less emotion on both sides of the question resulted in a breakthrough in 1965 with the enactment of the Elementary and Secondary Education Act. The Federal government's responsibility to assist substantially in the education of the nation's children and youth was accepted by the Congress under the leadership of President Johnson. Once and for all the principle that the Federal government has a stake in education has been established. It cannot be turned back. The question now is not whether or not there shall be Federal aid to education. The question is, what kind of aid shall this be?

We believe that the most pressing education needs are for maintenance and operation funds and for school construction assistance. We will devote our attention today to the issue of the need for massive Federal funds for operation and maintenance of schools.

We have been asked to state the NEA position on several bills before this Committee. We come to you with wholehearted support for H.R. 10833. In the interest of time we should like, at the conclusion of this hearing, to file statements on the other bills before the Committee and use the time allotted in this public hearing to discuss this single bill.

H.R. 11546

H.R. 11546 is intended to increase the national average per-pupil expenditure to $1,600, measured in terms of the value of 1967 dollars, over a ten-year period. The $1,600, when achieved, is to cover quality education for all children ages 5 to 17; lower teacher-pupil ratio by increasing the number of teachers; increase teachers salaries; increase educational personnel other than teachers; provide school aides, summer programs, adult education, school meals, health services, and safe modern facilities for all children.

The objectives of H.R. 11546 are commendable. The basic differences between H.R. 10833 and H.R. 11546 are not in purpose but in design. The distribution formula of H.R. 11546 seems unnecessarily complicated. It appears that the initial authorization would be about $2.5 billion for FY 1971, rising by 1977 to an annual appropriation of $27 billion. H.R. 10833 calls for an initial appropriation of $7.8 billion for FY 1971, and will be adjusted accordingly each year, depending on the number of children age 5 to 17 multiplied by $100.

H.R. 11546 provides that to be eligible for the Federal funds each State must maintain its average rate of increase in State and local revenues during the 1961–67 period. As a case in point, Nebraska would have to maintain only a 1.4 percent annual increase in State and local revenue, while Nevada would have to maintain an annual increase of 13.4 percent. Kansas would maintain an annual increase of 1.0 percent, while Tennessee's rate would be 8.1 percent. These and other examples apparent from the chart prepared by the proponents of the bill indicate that those States which made extra effort from 1961 to 1966 are penalized in favor of those who during the control period channeled State and local taxes to areas other than education.

H.R. 11546 contemplates the use of the Federal resources for school facilities as well as operation and maintenance. We believe that school construction should be treated in separate legislation because of the diversity among the State laws relative to school construction.

H.R. 776

H.R. 776, "The School Children's Assistance Act of 1969," provides for an appropriation of $25 per school-age child to be assigned to the public school the child attends, or, if he is in attendance at a nonpublic school, to the parent or guardian who in turn will transmit the payment to the private school in which the child is enrolled.

Aside from constitutional questions which are sure to be raised, the proposal is too meager in scope to be effective for either public or private schools. In addition, it provides no method of providing equalization of the Federal payment. A child of affluent parents, attending a heavily endowed private school, receives the same treatment as the child attending a school in a slum or on an Indian mission. The public schools in a rich community would receive $25 per child—which might not be needed—while a ghetto school with tremendous problems and low tax bases would also receive only $25 per child.

The basic problem in financing education is the unequal distribution of financial resources. H.R. 776 does not touch the heart of the problem, but merely gives the illusion of support. Under this proposal there is no possibility of equalizing opportunity for either public or nonpublic pupils.

H.R. 517

The NEA filed a statement on this bill which is contained in the hearing record for February 25, May 6 and 8, 1969. The statement begins on page 191 of the published hearings on H.R. 517. The NEA supports H.R. 517 or similar legislation for school construction assistance.

H.R. 9866

The NEA Assistant Executive Secretary for Legislation and Federal Relations filed a statement on this bill with the Committee on October 15, 1969. In brief, the NEA supports the proposal that Congress declares that every child is entitled to an education to the fullest extent of his capacity to learn. We oppose the establishment of a National Commission on Education. We commend the entire statement to the Subcommittee's attention again.

STATEMENT OF HON. JAMES J. DELANEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

November 13, 1969

I appreciate this opportunity to express my views to this distinguished Committee, as it considers legislation to provide general assistance to elementary and secondary education.

The question is: What form should that legislation take?

I strongly urge the Committee to adopt the provisions of my bill, H.R. 776, "The School Children's Assistance Act."

Nearly eight years have passed since I first introduced this proposal to give direct financial assistance to every elementary and secondary school child—regardless of the school he attends. The Child Benefit principle—which this legislation embodies—is a concept which previously had been either ignored or not fully comprehended.

Following introduction of my original bill, H.R. 9803, on January 22, 1962, there ensued a great national debate on the subject of Federal aid to education.

In my view, the resultant dialogue and discourse served a useful purpose. It has brought the issues into clearer focus, and has given the public a better understanding of the problems involved.

It has called attention to one of the most fundamental rights of man in a free society—the paramount right of the parent to control the education of his children, without being penalized.

This right is older than the Bill of Rights; older than our political parties; and older than our school system.

H.R. 776 does not give new privileges. It terminates old inequities. It provides equality in the exercise of civil rights for all school children. Its essence is liberty. Its hallmark is freedom from conformity.

This legislation is not only constitutionally permissible, but is a long overdue response to the demands of justice.

My proposal recognizes that religion and education are important to the American people. And it offers a realistic opportunity for significant relief to the overburdened taxpayer.

While it honors our sense of justice—from a strictly materialistic standpoint—it also makes good economic sense.

H.R. 776 authorizes an annual financial grant to each child attending school—whether public or nonpublic. It prohibits Federal interference in the operation or administration of any school system. It places its trust in parents—rather than bureaucrats—to determine the education of American children.

The time is long past when figures of speech can be used to deny public welfare benefits to certain segments of our society.

The words, "wall of separation between church and state," are not found in the Federal Constitution. Yet, they have been invoked time and time again to prevent children attending nonpublic schools from sharing in benefits common to all.

Justice Black in the *Griswold* case,[1] rightfully noted that First Amendment freedoms "have suffered from a failure of the courts to stick to the simple language of the First Amendment . . . instead of invoking multitudes of words substituted for those the Framers used."

Mr. Chairman, State laws require children between certain ages to attend school under civil penalty. At the same time, the U.S. Supreme Court has long recognized certain fundamental rights: the right to educate a child in the school of the parent's choice and the right to study the entire spectrum of knowledge.

These hallowed Constitutional principles were set forth in *Meyer* v. *Nebraska*,[2] and *Pierce* v. *Society of Sisters*.[3] They were specifically reaffirmed in the *Griswold* case.

Just last year, in the *Allen* textbook case,[4] the Supreme Court upheld the Child Benefit principle, and again reaffirmed the Pierce decision. Speaking for the majority, Justice White noted that nonpublic schools are doing "an acceptable job of providing secular education to their students."

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[1] *Griswold* v. *Connecticut*, 381 U.S. 479, 509 (1965). Involved citizens' rights to access to knowledge. Court declared unconstitutional a State law prohibiting access by married couples to knowledge of birth control information.

[2] 262 U.S. 390 (1923).

[3] 268 U.S. 510 (1925).

[4] *Board of Education* v. *Allen*, 392 U.S. 236. In which the Court upheld a New York State law authorizing free textbooks for all schoolchildren.

When aid is provided under compulsory attendance laws only to children who attend State schools, this, in effect, is using the taxing power to suppress the right of children to attend nonpublic schools.

Such a policy effectively closes the doors of independent schools to all those who do not have a full purse. This clearly violates Constitutionally protected freedoms. "Freedom of speech, freedom of the press, and freedom of religion are available to all, not merely those who can pay their way." [5]

Education is taught in a vacuum. It is concerned with the person and his relationship to the life around him. It necessarily involves value concepts.

While Madelayn Murray and other atheists do not utilize what generally would be considered a church, they have—as a result of Supreme Court decisions—succeeded in making the public school their "church" or "temple," since education compatible only with their beliefs and values is permitted to be taught there.

Ought their beliefs to be endowed above all others with extraordinary privileges by which children may be enticed from beliefs and values common to church-affiliated and other independent schools? I think not.

As James Madison rightly observed in his famous "Memorial and Remonstrance," such a situation "violates equality by subjecting some to peculiar burdens; so it violates the same principle by granting to others peculiar exemptions."

Mr. Chairman, there is a crisis of confidence in our educational system.

Taxpayers are revolting against constantly increasing school costs. They do not like being forced to support a monolithic state school system, to the detriment of competing educational institutions. They are protesting against the lack of diversity—against the denial of the parental right to select the education of his child.

Monopoly is adverse to the political, social, and economic beliefs of this nation. It should not be encouraged in any sphere, most emphatically, not in the shaping of the minds and thoughts of children.

Pluralism in American life, like competition in the American market place, is essential to a free and open society.

Time after time, the American people have expressed their strong opposition to the high cost of taxes by voting down requests for school funds.

According to the October 20, 1969, issue of *U.S. News & World Report*, voters across the nation rejected 25 percent of the school bond issues submitted for their approval in 1965. By 1969, 43 percent of the requested bond issues were rejected.

More importantly, the article stated that a recent Gallup poll showed that 49 percent of those interviewed said they would not vote to raise taxes if the schools said they needed more money.

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[5] *Murdock* v. *Pennsylvania,* 319 U.S. 105, 111 (1943). The Court declared unconstitutional a municipal license tax applicable to a group of Jehovah's Witnesses who advocated their views through the distribution of pamphlets.

In my own State of New York, over 100 school districts have rejected proposed school budget requests so far this year. In Youngstown, Ohio, voters rejected a request for an increase in school taxes six times, forcing the schools to close for five weeks.

In the October 21, 1969, issue of the Washington *Star*, it was reported that voters in Freemont, Ohio, have twice rejected a request for increased school taxes. As a result, their schools will close on November 14—and will not reopen until January 5.

High costs, and the need for additional tuitions, are forcing a growing number of nonpublic school parents to send their children to public schools. This rapidly rising influx of independent school children into public schools is placing an inordinate burden on our taxpayers.

On April 6, 1969, the New York *Times* reported that during the last four years, Catholic parochial school enrollment declined nationally by more than 600,000 students. The same article states that these schools may drop an additional 2 million pupils in the next few years.

In Helena, Montana, the entire parochial school system was closed down this year. As a result, approximately 1,000 students were added to the public schools—an enrollment jump of 15 percent. To the taxpayers, this means that school operating costs have increased by nearly $600,000 annually. In addition, the City's purchase of the diocesan high school cost the taxpayers $1.5 million.

The closing of the nonpublic schools in St. Albans, Vermont, brought a dramatic reaction from the taxpayers when they learned this would result in a school tax increase of approximately 40 percent. The voters refused three times to approve the increase, and the public schools, scheduled to open on September 3, were unable to do so. Finally, on September 9, the tax was agreed to, and the schools opened.

Only last week, this growing trend in closing of nonpublic schools was pointed up on a nation-wide television news program concerning St. Peter's High School in Gloucester, Massachusetts. Built four years ago, at a cost of $7 million, the school was designed to accommodate 700 students, but only about half that number now attend. Because it operates at an annual deficit of $170,000, Cardinal Cushing has decided to close the school and is negotiating for its sale to the city for $4 million. Due to constantly rising costs, he may be forced to close additional schools in the archdiocese, which has a parochial enrollment of nearly 210,000.

The crisis in educational costs impels us to make every effort to find a solution to this problem. In my view, it is absolutely essential that we do everything possible to encourage the continued operation of both public and nonpublic schools.

In New York State, an estimated 816,000 children are enrolled in independent schools. If these children were forced into the public school system—at today's costs—it would put an estimated additional burden on the taxpayers of $1.066 billion annually.[6]

If all nonpublic elementary and secondary schools in the nation closed tomorrow, it would force upon the American taxpayers an additional $4.7 billion annually to absorb these children into public schools.[7]

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[6] Based on the U.S. Office of Education's estimate of a total per-pupil expenditure of $1,306. *Fall, 1968 Statistics of Public Schools*; and unpublished data.

I need not remind you that costs are expected to continue to rise in the foreseeable future.

In addition to the demands of justice—and sound economic policy—there is another important reason for us to encourage diversity in education.

A great many Americans are deeply disturbed about the standards of conduct and the moral climate in this nation. They want an end to soaring crime rates, rampant sexual license, widespread use of drugs and narcotics, civil discord, and threatening rebellion.

The situation in a number of ghetto schools has deteriorated to such an extent that one official recently stated that the "Three R's" mean "Robbery," "Rape," and "Rampage."

Also, a number of citizens are seriously troubled because many children in public schools have no opportunity to know the soothing sound of prayer.

Public concern for national morality has long been recognized by Congress. The First Congress, which fashioned the language of the First Amendment, also re-adopted the famous Northwest Ordinance of 1787—with its memorable language that "religion, morality, and knowledge, being necessary to good government and the happiness of mankind, schools and the means of education shall be forever encouraged."

To encourage diversity in education is to recognize and respond to public concern for morality.

In my view, if we enhance the opportunity for all parents to educate their children in institutions compatible with their beliefs, we will go a long way toward reversing the dangerous trend in crime that is sweeping the nation.

A wider choice in educating the disadvantaged was strongly recommended by the Task Force on Economic Growth and Opportunity of the Chamber of Commerce of the United States.

In their 1966 report, entitled "The Disadvantaged Poor," this distinguished group vigorously supported diversity in education. Their specific recommendation reads:

> Competition with existing public school systems offers a promising means of improving both public and private education. If all parents—at every income level—could choose between sending their children to public schools, and sending them to approved private schools—at public expense—both public and private education would improve, as schools attempted to attract and hold pupils.

I might note, Mr. Chairman, that the Task Force recommends a tuition voucher plan, such as mine, as a vehicle to provide competition in education.

In urging a national program of competitive education, the Task Force used the words of Mr. Christopher Jencks—a liberal spokesman on education—to caution:

> It is natural for public servants to complain about private competition, just as private business complains about public competition . . . but, if the terms of competition are reasonable, there is every reason to sup-

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[7] Based on the U.S. Office of Education's estimated enrollment of 5,700,000 students in these schools, Fall, 1969. The same source estimates the average per-pupil expenditure nationally at $834 for the 1969–70 school year.

> pose that it is healthy. Without it, both public and private enterprises have a way of ossifying. And if—as some fear—the public schools could not survive in open competition with private ones, then perhaps they *should* not survive.

The American people want private and independent schools. They value them highly, and every effort should be made to encourage their success.

A recent poll conducted by Gallup International[8] shows that the great majority of Americans would send their children to private and parochial schools if given the opportunity.

Some important conclusions of the poll, based on responses of those who live in areas where public, private, and parochial schools exist, are as follows:

59 percent would send their children to private or parochial schools if tuition were free.

65 percent rated the quality of education in nonpublic schools equal to or higher than public schools.

84 percent believe private and parochial schools should be available in any new cities which might be built in this nation.

The private and denominational school is neither an intruder nor a late arrival on the American educational scene. On the contrary, it antedated the public school by nearly two centuries.

In these schools the founders of this nation were educated. Here, a significant number of immigrants were tutored to citizenship, and the American way of life.

In these institutions, dedicated men and women devoted themselves to educating the American Indian. And these were among the first schools to open their doors, on an equal basis, to Negro and white children, alike.

Here was fashioned the American dream of equality for all—regardless of race, creed, or color. We now have an opportunity to make that dream a reality for all school children.

The principle of my original proposal served as an anvil on which we were able to hammer out the landmark Elementary and Secondary Education Act of 1965—and subsequent educational aid programs.

H.R. 776, can now serve as a forge to fashion a truly equitable, dynamic, and diversified educational program that will fully recognize the rights of all students in our pluralistic society.

I strongly urge that this legislation be reported out as quickly as possible.

STATEMENT OF EVELYN KINNEY, PRESIDENT, INTERCOLLEGIATE ASSOCIATION OF WOMEN STUDENTS, HELENA, MONT.

November 26, 1969

RECOMMENDATIONS

1. That a women's bureau be established in *every* branch of government, not only the Labor Dept., e.g. under the U.S. Office of Education;
2. That the special emphasis of the Women's Bureau of the Labor Dept. be commended, and funding for expansion be provided to

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[8] *How the Public Views Nonpublic Schools: A Study of the American Independent School*, Cambridge, Massachusetts, Otto F. Kraushaar, Director, July 29, 1969.

include more materials of use to the guidance worker who has not previously been trained to counsel women;

3. That the government should fund, sponsor, and initiate special training institutes (e.g., NDEA format) focusing upon women as a culturally distinct group which requires an additional dimension of education of the generalist—professionals who may serve in a personnel capacity, on campus as an advisor, counselor, or administrator; and that industry be involved as well;

4. That educational institutions be urged to:

   (*a*) review current personnel policies affecting women;

   (*b*) obtain and place women in all levels of faculty and administration, in public and private sectors of educators of education;

   (*c*) make public the policies and practices employed in admissions, financial aids, placements, etc.; and that all reports show data regarding male, female, and race; and that Federal funding be administered accordingly.

5. That funding be provided for increased numbers of women to continue their education at the graduate level, including international travel and research grants for comparative studies;

6. That some concern be expressed and that legislation be enacted to be removed the disparity between men's and women's salaries in the blue and white collar positions—and the professions!

STATEMENT OF SIR JAMES PITMAN, K.B.E., LONDON, ENGLAND*

November 26, 1969

The Right to Read: Target for the Seventies

On September 23, 1969, the U.S. Commissioner of Education, James E. Allen, Jr., established a national goal for the United States that by the end of the 1970's no person will leave a school system anywhere in the United States without the ability to read properly. The *New York Times* reported that the Commissioner believed that the teaching of reading was the single most important function of education. He was said to believe that improving reading ability is a "simple, clear goal" that everyone could understand and that would appeal to both liberals and conservatives.

The "right to read" crosses all political boundaries and, indeed, crosses oceans as well. For it was on the same day that there appeared in my country that most important report of the British Schools Council on an approach to literacy that had been under examination for several years. The report was entitled: *i.t.a.: An Independent Evaluation*

It is about i.t.a. (the Initial Teaching Alphabet) that I wish to speak today—with deep appreciation to Congressman Pucinski and this committee for the opportunity to do so. You have given me an opportunity, also, to thank the thousands of teachers and school administrators and the tens of thousands of children in your country who have already begun to make my lifetime dream of rationalizing the learning-to-read process a reality.

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*This is a slightly abridged version of the original prepared statement.

Literacy: Long the Target for the Pitman Family

This dream I have shared with my ancestors. More than a century ago, my grandfather, Isaac Pitman, began work on improving our Roman alphabet. Also the inventor of Pitman shorthand, Isaac Pitman left his career as a schoolmaster to devote his entire life to alphabetic concerns. It was he, over a century ago, who saw that the use of an initial teaching alphabet would facilitate learning to read and write. He deeply influenced my own work. And his goal was the same as that cited by Commissioner Allen two months ago.

What is the Initial Teaching Alphabet?

The Initial Teaching Alphabet (i.t.a.) is a teaching and learning tool which makes it easier for our children to read our traditional alphabet.

The Initial Teaching Alphabet has 44 symbols instead of the conventional 26. Each of the forty-four symbols represents one, and only one, sound. Twenty-four of the 44 symbols are the traditional ones; 14 of the augmentations look very much like two familiar letters joined together. The other special symbols represent the remaining phonemes of English. (See Exhibit I). The result is that whenever a child sees a symbol, it is read in its own meaningful way.

In our conventional alphabet, 2000 or more visual patterns are used for the 40-plus sounds of English speech. For example, there are more than 20 separate ways of spelling the sound of "i":

I
eye
aye
b*ye*
b*y*
p*ie*
s*igh*
*ai*sle
*is*land
ch*oir*, etc.

In i.t.a., only one symbol for the sound is used. Once the child associates each of the i.t.a. symbols with its respective sound, he can read and write any word he can say. As for the problems of capital letters—which introduce yet additional new visual patterns in our traditional system—in i.t.a. they do not exist. A larger version of the letter becomes its capital. Within the design of the letter and its use as a consistent symbol are built other special considerations which reduce the differences between the appearances of words in the Initial Teaching Alphabet and in the conventional alphabet. With this consistent tool, a child's earliest experience at school demonstrates to him that his reason can be depended on—that once he has learned a fact, he can apply it successfully. Success becomes a continuing part of his school experience.

The i.t.a. is not spelling reform, nor is it a phonetic alphabet. The i.t.a. is a special learning tool. It is a tool with built-in devices to make the transition to the alphabet and spelling children will use for the rest of their lives easy and rapid.

Like the training wheels on a bicycle, i.t.a. is temporary, helpful, and safe. It is discarded when the child has developed the skills, the experience, and the confidence to press on without it.

In the United States, the average child moves from i.t.a. to the alphabet he will use for the rest of his life within the first year of school. In my country, where children begin reading a year or two earlier than they do in the United States, most children make the move to the "grown-up" alphabet in a year and a half. Both in England and America, they make this change with a heightened literacy, a fluency that research has shown to be significantly beyond that of children taught conventionally—and with an interest in learning, in words, and in school itself that will stand them in good stead from that moment on.

I should point out that i.t.a. is not a method but a medium. It can be used, just as our regular alphabet can be used, to teach either by the "phonic" method or by the "look-say" method. It can be used on the educational hardware which today so attracts some of our mechanistic colleagues. It can be used in programmed instruction. It can be colored. It is, in short, a tool, to be used creatively by those people who apply their God-given creativity to helping children. And finally, it is not proprietary nor is its use copyrighted. *Any* publisher, *any* machine manufacturer, *any* teacher, is free to use my Initial Teaching Alphabet, and I wish him Godspeed in his endeavors.

The Development of i.t.a. in England

In the Spring of 1960, I succeeded, after years spent creating a favorable climate, in persuading Lionel Elvin, Director of the University of London's Institute of Education, and Dr. W. D. Wall of the National Foundation of Educational Research in England and Wales to recommend to their respective governing bodies that i.t.a. research be undertaken. The project was given the blessing of the Minister of Education, of the Secretaries of the Association of Education Committees and the National Union of Teachers. An expert committee was appointed to initiate the inquiry and give it guidance, and a Reading Research Unit at the University of London was established.

In 1961, the first British experiment in i.t.a. was begun. The overall findings of the first British experiment were widely accepted. They provided support for the basic premise that the orthodox alphabet and spelling are serious causes of difficulty in the early stages of learning to read and write, that i.t.a can achieve a sizeable improvement in children's reading standards and can reduce the number of nonreaders.

Subsequent research and investigation culminated in the recent Schools Council report by Professor F. W. Warburton and Dr. Vera Southgate. We finally have an *i.t.a.: An Independent Evaluation*, an assessment of the available evidence in England. It is a most exhaustive examination of the Initial Teaching Alphabet; it collects and reports on the comments of teachers and administrators, and it makes a detailed appraisal of seventeen specific i.t.a. research projects both in the United Kingdom and in the United States.

The conclusion of this 300-page report, given most succinctly, is that "it would appear that the best way to learn to read in traditional orthography is to learn to read in the Initial Teaching Alphabet."

Today, almost 20 percent of all British children now learn to read with i.t.a. This has been the case—despite budgetary stringency (far beyond anything that you in the United States have experienced), despite a certain love of the past which is perhaps both our blessing and our bane, and despite the reluctance endemic to all educational communities to set forth on unchartered voyages, even if those voyages should lead to new worlds.

The variety of nonreaders who have benefited from i.t.a. is significant. To take only one example, with adult nonreaders, i.t.a. has been used by our military at the Royal Army School of Preliminary Education. Major Colin Stevenson reported:

> After some three years' experimentation, we were able to state that, in our particular situation, i.t.a. has a very important part to play in alleviating reading retardation in adults. A substantial contribution to its effectiveness is undoubtedly the easy success rate which is achieved. The results far exceeded anything hitherto achieved at the school by conventional remedial methods.

I cite the work in Major Stevenson's Command simply to indicate the range of application of this new tool in England.

It is my hope that the authority of the recent Schools Council report will help to spur more British educators to put aside those twin deterrents to change—specious economic reasoning and visceral resistance to innovation. It is my belief tht we in England can no longer afford the high human cost of illiteracy—if we ever could.

The Development of i.t.a. in the United States

The high cost of illiteracy is not less in the United States. American educators were alert to the i.t.a. research begun in England, and in 1963, approximately 600 children in Bethlehem, Pennsylvania, participated in the first large i.t.a. study conducted in the United States, thanks to the financial support provided by the Ford Foundation. By its fifth birthday in the United States, it was reasonable to estimate that almost a half-million American children had learned to read with i.t.a. There are i.t.a. classes in every state in the United States. Ten percent of all United States school systems have at least one i.t.a. class.

Scores of corporations are involved in the production of i.t.a. materials. There are over a thousand titles of children's books available in i.t.a., and a vast array of supplementary educational materials.

By the summer of 1968, Professor J. R. Block, Chairman of the Psychology Department of Hofstra University and Director of the American i.t.a. Foundation, estimated that over 50 studies had attempted to use some kind of a control group for comparison purposes with an i.t.a. group. (There are many more than 50, but many have been based on subjective conclusions and observations unsupported by comparative data or not analyzed with sophisticated statistical tools.) In the 50 studies which would meet the criterion of the use of control groups, a conservative estimate suggests that over 25,000 children have been studied, and the cumulative research costs must clearly be in excess of $1 million. Few education innovations can claim as much research over as long a period of time.

In evaluating this research, it is important to note that the variability of these studies makes one even more confident in generalizing from the results than might otherwise be the case. A wide variety of measures of reading, writing, and other language arts skills have been used; thus, the findings are not restricted to a single definition of reading. Both small- and large-scale studies have been conducted—many with U.S. Office of Education support. In addition, a wide range of students and teachers has been involved in the various experimental and control groups: urban, suburban, and rural, in all major geographic areas. The children have ranged from those who are severely educationally disadvantaged to those who are intellectually gifted. The teachers have been of all varieties and levels of experience.

With all this variety, it is important to note that the pattern of research results remains the same, and in fact is so clear that one can reasonably predict the results of any given study with considerable confidence.

Most studies have shown that i.t.a. taught children to read significantly better than their counterparts who were taught to read with traditional orthography. No study undertaken thus far has shown that there is any danger that i.t.a. children will score lower than children taught in the conventional alphabet.

As recently as October 24, 1969, Dr. Robert J. Purdy, Los Angeles Assistant Superintendent of Education, reported how i.t.a. fared among *all* their innovational reading programs:

> The elementary schools, in varying numbers, have utilized over the past three years more than 20 pilot or experimental programs involving new, innovative teaching materials in reading. To date, with a single exception, there is no evidence of unique or unusual achievement as a result of the use of these materials. The exception is at one school which for one year has used the i.t.a. program.

In Paducah, Kentucky, where all first-graders use i.t.a., the Elementary Supervisor, Mrs. Virginia Walker, said:

> We are convinced it is the best method, and now we have the concrete data to support our convictions.

In Florida, a pilot study begun three years ago at Bethune Elementary, a low socio-economic area school with a predominantly Negro population, provided the impetus for a Federally funded three-year, in-depth study. When I was in Florida in June 1969, test results of youngsters after one year of i.t.a. reading compared with a control group studying traditional orthography were statistically significant in favor of the i.t.a.-taught readers, according to Robert Sipes, a Dade County research associate. When the young readers switched over to traditional orthography in the latter part of the first grade or somewhere in the second grade, they still tested higher. Non-experimental classes in i.t.a. showed good results in Key Biscayne, Village Green, North Miami, and Shenandoah.

Dr. Sipes said that parental worries about children adjusting to correct spelling and about the transitional period to traditional alphabet have proven groundless.

Dr. Sipes' response to transition and spelling questions is reinforced by a summary of the U.S. Office of Education Project NO 6-1651:

> The transition from i.t.a. to T.O. appears to be a relatively simple task. Pupils whose initial instruction was in i.t.a. recognized more words and were significantly better spellers at the end of the second grade (the superiority of i.t.a. pupils in spelling is especially interesting because i.t.a. pupils found spelling difficult at the end of the first grade.) There appears to be little interference between the old learning (i.t.a.) and the new learning (traditional orthography) as far as spelling and decoding words are concerned.

As far as writing is concerned, those studies that have dealt at all with this important subject indicate clearly that children tend to write much longer and more interesting stories with i.t.a. than children taught with traditional orthography.

The data on children's attitudes and behavior is highly subjective, since adequately reliable, valid, and objective measures of such variables are not available. Nonetheless, to the extent that teacher observations are valid, we find teachers consistently reporting that the children's behavior in i.t.a. groups reflects high levels of self-confidence, independent behavior, and generally positive attitudes towards school. There seems to be a consistent tendency for teachers to note that i.t.a. children seem to enjoy school to a far greater degree than children they had previously taught using traditional orthography. And the astonishing fact here is that "attitude" and "self-image" come up time and time again as noteworthy by-products of the i.t.a. learning experience.

From remedial classes in Bethlehem to classes for the deaf in Brooklyn, to Mexican-Americans in Texas, to prison illiterates in Oregon State Penitentiary, the story is the same:

> A 75 percent drop in remedial cases in Bethlehem is credited to i.t.a. (Elizabeth Everett, reading adjustment teacher)
>
> Utilization of i.t.a. with the young hearing impaired child enables him to learn to read, speak, and write simultaneously. (Sister Francis Solano, C.S.J., St. Francis de Sales School for Deaf)
>
> i.t.a. allows the introduction of all elements (reading, writing, hearing, speaking, and understanding) of English from the very beginning.
>
> This totality of presentation allows an acceleration of learning due possibly to the maximum contact involved.
>
> i.t.a. largely minimized phonic problems of English for the student who has Spanish as a first language.
>
> i.t.a. minimizes lingual interference.
>
> i.t.a. helps minimize the fear element and instills early and continuing confidence in the student. (James Larick, St. Paul's Episcopal School, Brownsville, Texas)
>
> It is the consensus of the certified instructors who have worked with remedial groups since September, 1961, that the i.t.a. program is the most successful remedial program we have attempted and the results presently indicate this. We have concluded from our studies that the inmates find i.t.a. easier to learn because it is more consistent than T.O. The men, once indoctrinated to the program, receive it more enthusiastically than T.O. because it has a wider interest range and is less juvenile in its approach. (William J. Pahrman, Oregon State Penitentiary)

Clearly i.t.a. is past the stage of research and evaluation for purposes of comparing its effectiveness with that of the conventional, 26-letter alphabet. If the evidence on hand is not convincing, additional evidence will not convince.

The major objection to i.t.a. in the United States at the present time is that its effects may not be sufficiently long lasting to justify its use. This response is particularly insidious. It is almost impossible to answer through research, since longitudinal studies are extremely difficult, expensive, and time-consuming to conduct, and one can rarely begin to control the myriad variables which might affect the results.

But the real questions are first, for how long a time are the effects of training wheels on bicycles relevant? Secondly, unless schools continue to build on early-developed skills, change their curriculum to capitalize on new capabilities, and recognize the fine potential of their young learners, they will have tragically wasted this opportunity and been prodigal of their human resources.

Recommendations

I hope that I have sufficiently shown that the Initial Teaching Alphabet is a most extraordinary weapon in the battle against illiteracy. If an educator is not convinced today, after almost a decade of the most exhaustive experimentation with tens of thousands of children on several continents, he will not be convinced by my arguments or by still further replication of existing data.

The real issue, and why I am here today, is to urge your acceptance of the help of this weapon and ask for your support—insofar as I, a visitor to your country, am permitted to do—for the goals expressed by your Commissioner of Education. Much of what I say as the developer of i.t.a. comes under the heading of "special" pleading relative to this goal, and I beg your indulgence for this inescapable fact. My special pleading as the inventor, however, is not proprietary. I have given i.t.a. freely to anyone who would use it, and, indeed, dozens of American organizations (including the American Pitman companies) are taking a leadership role in commercial development of this alphabet.

I urge that attention be paid by those in a position to do so to the rapid dissemination of those ideas which hold promise—and i.t.a. is such an idea.

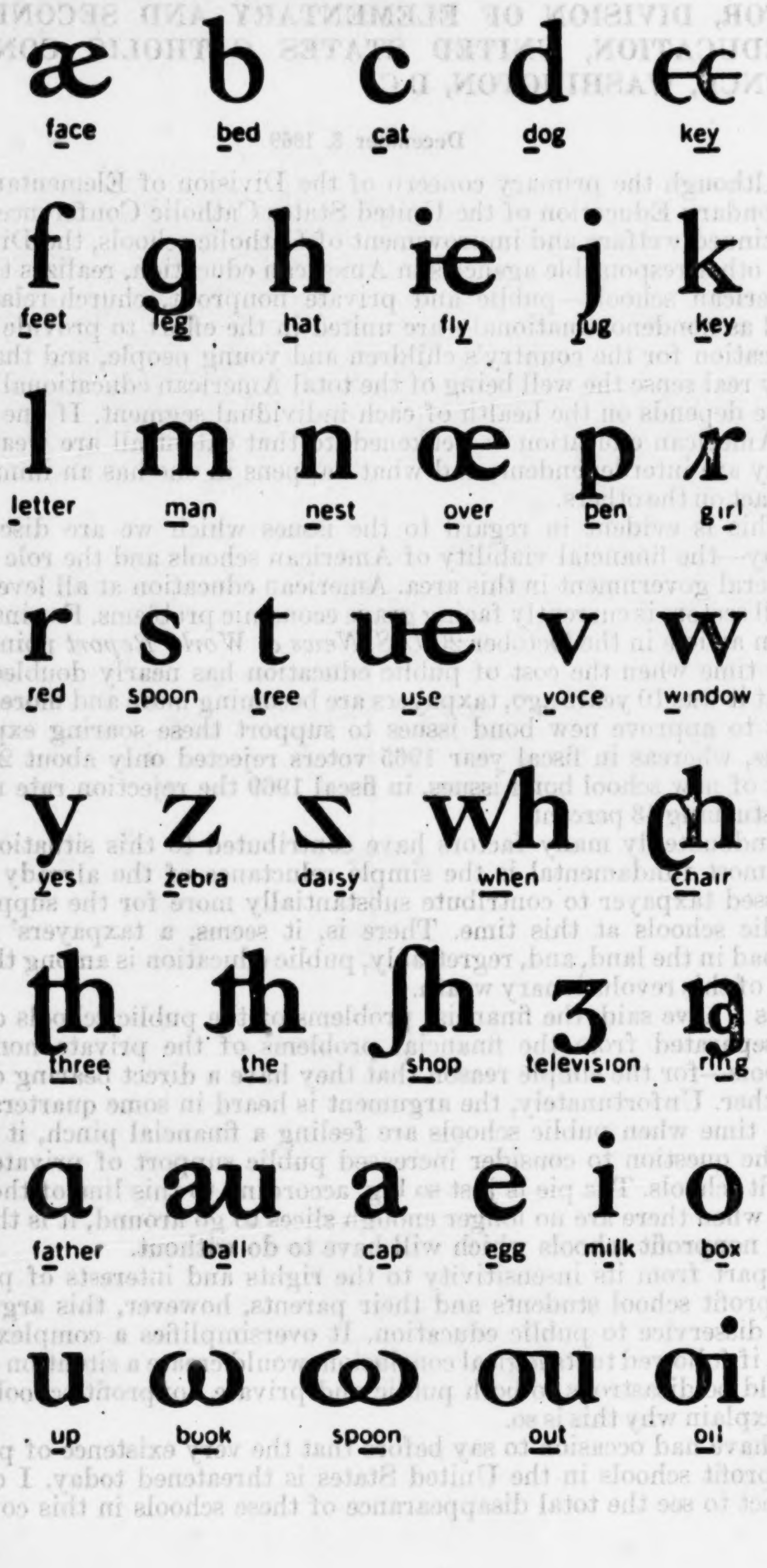
You have been most generous in your funding of research across the length and breadth of the earth, and yet we have ample evidence that there is insufficient application and utilization of the innovations demonstrated to be highly productive. For example, that most promising report by Dr. Purdy of Los Angeles, to which I referred earlier, goes on to say that while i.t.a. was the only unique or unusual achievement out of 20 pilot or experimental programs, this i.t.a. program of theirs "is being continued and extended to *an* additional school." At this rate of implementation of innovation, I can presume—having visited Los Angeles—that it would take a century for the benefits of i.t.a. to extend across the length and breadth of that great city.

Indeed, I have been informed that in another important American city, an experimental i.t.a. program—funded by the Federal government—showed most positive results, only to remain unimplemented because Federal funding was available for yet another research in yet another area. The researchers somehow found it attractive to get those funds to prospect in another territory instead of mining that which they had proven to be a rich lode.

What I take the liberty of suggesting, therefore, is that some consideration be given to legislation providing funds which would be applied to the implementation of proven innovative educational practice.

I greatly appreciate the privilege of appearing before this Committee and of joining with you in this most imaginative and worthwhile enterprise. Let us all work together in order that Commissioner Allen's target—insuring the right to read for all—shall be achieved in the next decade.

EXHIBIT I: The Initial Teaching Alphabet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face bed cat dog key
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l m n œ p r
letter man nest over pen girl
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red spoon tree use voice window
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yes zebra daisy when chair
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up book spoon out oil

STATEMENT OF REV. MSGR. JAMES C. DONOHUE, DIRECTOR, DIVISION OF ELEMENTARY AND SECONDARY EDUCATION, UNITED STATES CATHOLIC CONFERENCE, WASHINGTON, D.C.

December 3, 1969

Although the primary concern of the Division of Elementary and Secondary Education of the United States Catholic Conference is the continued welfare and improvement of Catholic schools, the Division, like other responsible agencies in American education, realizes that all American schools—public and private nonprofit, church-related as well as nondenominational—are united in the effort to provide better education for the country's children and young people, and that in a very real sense the well being of the total American educational enterprise depends on the health of each individual segment. If one sector of American education is weakened, to that extent all are weakened. They are interdependent, and what happens in one has an immediate impact on the others.

This is evident in regard to the issues which we are discussing today—the financial viability of American schools and the role of the Federal government in this area. American education at all levels and in all sectors is currently facing grave economic problems. For instance, as an article in the October 20 *U.S. News & World Report* points out, at a time when the cost of public education has nearly doubled over what it was 10 years ago, taxpayers are becoming more and more reluctant to approve new bond issues to support these soaring expenses. Thus, whereas in fiscal year 1965 voters rejected only about 25 percent of new school bond issues, in fiscal 1969 the rejection rate rose to a disturbing 43 percent.

Undoubtedly many factors have contributed to this situation, but the most fundamental is the simple reluctance of the already hard-pressed taxpayer to contribute substantially more for the support of public schools at this time. There is, it seems, a taxpayers' revolt abroad in the land, and, regrettably, public education is among the targets of this revolutionary wrath.

As I have said, the financial problems of the public schools cannot be separated from the financial problems of the private nonprofit schools—for the simple reason that they have a direct bearing on one another. Unfortunately, the argument is heard in some quarters that, at a time when public schools are feeling a financial pinch, it is out of the question to consider increased public support of private nonprofit schools. The pie is just so big, according to this line of thought, and when there are no longer enough slices to go around, it is the private nonprofit schools which will have to do without.

Apart from its insensitivity to the rights and interests of private nonprofit school students and their parents, however, this argument is a disservice to public education. It oversimplifies a complex issue and, if followed to its logical conclusion, would create a situation which would be disastrous to both public and private nonprofit schools. Let me explain why this is so.

I have had occasion to say before that the very existence of private nonprofit schools in the United States is threatened today. I do not expect to see the total disappearance of these schools in this country, but I do consider it entirely possible that financial pressures could force a drastic reduction in the number of Catholic school elementary and secondary students over the next five years. I do not wish to play the role of Cassandra, and so I do not say that this will necessarily happen. But I regard it as a real possibility which no one seriously concerned with the future of American education can afford to ignore.

The decline in enrollment in Catholic schools over the past several years—a decline brought about by financial pressures forcing cutbacks in the Catholic school effort—has, after all, already been substantial. Enrollment in Catholic elementary and secondary schools has dropped from 5.6 million in the 1964–65 school year to an estimated 4.86 million in the current school year—a decline of three-quarters of a million students in only five years. Furthermore, the process seems to have been accelerating, in that the decline in enrollment in the two school years just prior to this one was a full half-million.

But—and this is the heart of the point I am attempting to make—it would be a tragic error to suppose that these figures reflect a problem for Catholic schools only. On the contrary, as Catholic schools are an integral part of the total American educational enterprise, so the enrollment decline they have suffered in recent years has had a direct and immediate impact on the public sector of American education.

The reason is obvious. When children leave a Catholic school which has closed or been forced to cut back its operations for financial reasons, they do not vanish. They go to school somewhere else, and "somewhere else" means the local public school.

The dollars and cents implications for public schools are clear. The more former students of Catholic schools enroll in public schools, the more public schools will be obliged to provide additional teachers, classrooms, equipment, and materials—and this at precisely the time when they are increasingly hard pressed for funds. Indeed, the conclusion seems inescapable that the present finanical crisis in public education is made worse by the financial crisis in nonpublic education.

The available figures demonstrate that this is no fantasy. For instance, it is estimated that taxpayers in the Detroit area have paid some $90 million over the past four years to accommodate in public schools some 50,000 former Catholic school students who have been forced out of Catholic schools which have closed, consolidated, or curtailed classes. This is, furthermore, a continuing expense, since these students will continue to be a drain on the taxpayers' pocketbook for as long as they remain in public school.

Nation-wide, the pattern is the same. A recent report by the National Catholic Educational Association, pointing to the loss of 500,000 students in the past two years and an estimated future loss of 156,000 this fall as against last year, states:

> Based on the latest national per-pupil cost-figure for the public schools, which is $638, the inability of the Catholic schools to provide education for the half-million pupils whom it turned over to the public school rolls during the past two years means a minimum increase in school taxes of $315.8 million annually. Because most Catholic schools are in the large urban centers where public school costs are higher than the national average—for example, a figure of $1,100 per pupil was published recently for New York City—the actual tax increase is probably well

> over a third of a billion dollars per year. If the further drop in enrollment expected this fall stays at the relatively modest 156,000 pupils that seems possible now, the annual tax bill will still increase another $100 million at a minimum.

Quite obviously, then, the present financial crisis in Catholic education is contributing—inadvertently but unavoidably—to the financial crisis in public education. From this point of view alone, it is sound public policy to extend increased public assistance to private nonprofit schools. Their supporters are, after all, not seeking 100 percent subsidy from public funds. Rather, they are asking for relatively modest assistance from the public sector—supplementing but not replacing their own voluntary support of these schools—assistance directed, furthermore, to the secular aspects of their educational programs which so clearly perform a public service function.

That private, nonprofit, church-related schools do perform such a function is, incidentally, no exclusive discovery of their supporters but is rather a point of view subscribed to by the United States Supreme Court in the 1968 *Allen* decision, which upheld the constitutionality of New York's program of lending textbooks to students in church-related schools. It is worthwhile in this context to recall the passage in which Mr. Justice White, speaking for the Court's majority, wrote as follows:

> Underlying these cases [previous cases involving government assistance to nonpublic education], and underlying also the legislative judgments that have preceded the Court decision, has been a recognition that private education has played and is playing a significant and valuable role in raising national levels of knowledge, competence, and experience. Americans care about the quality of the secular education available to their children. They have considered high quality education to be an indispensable ingredient for achieving the kind of nation, and the kind of citizenry, that they have desired to create. Considering this attitude, the continued willingness to rely on private school systems, including parochial systems, strongly suggests that a wide segment of informed opinion, legislative and otherwise, has found that those schools do an acceptable job of providing secular education to their students. This judgment is further evidence that parochial schools are performing, in addition to their sectarian function, the task of secular education.

Thus, we have seen two reasons why private nonprofit schools should survive, and why it is sound public policy to provide government assistance to help ensure their survival and, more than that, their continued existence as quality educational institutions. These reasons are the adverse impact that a large number of nonpublic school closings would have on the financial situation of public schools and on the American taxpayer, and the fact that private nonprofit schools do perform a public service function in the provision of secular education to their students. Beyond these considerations, however, there is a third reason for extending public support to private nonprofit schools—protection of the values of diversity, freedom of choice, and healthy competition in American education.

I am sure this point scarcely needs to be labored. In a pluralistic society such as our own, it is essential that we have an equally pluralistic educational system reflecting the diversity of society itself. The emergence of a monolithic, monopolistic school system in this country would be a threat to the intellectual vitality and liberty we prize. Americans feel a special abhorrence toward monopoly, and we have passed many laws to counteract monopolistic tendencies in a variety of social and economic areas. But a monopoly in the field of education would be especially contrary to the American system. The continued existence and health of private nonprofit schools is the best hedge we have against an education monopoly.

Furthermore, only the existence of these schools makes a reality of our traditional commitment to free choice in education. Freedom which exists only in theory but cannot be exercised in fact is scarcely freedom at all. If freedom of choice in education is to continue to be a reality in this country, it is obvious that private nonprofit and church-related schools must continue to exist as genuine, available options for parents and students who choose them. The preservation of this freedom is certainly a legitimate object of public and governmental concern.

Lastly, the existence of private nonprofit schools as effective dynamic institutions of education provides an element of healthy competition for public schools. This is, I should emphasize, not cut-throat competition, since public and nonpublic schools are partners in the total American educational enterprise. Rather, the presence on the scene of excellent nonpublic schools provides public schools with a continuing incentive to "try harder"—just as the existence of excellent public schools supplies the same incentive to nonpublic schools.

In making these comments, I wish at the same time to emphasize that the precise vehicle or mechanism by which aid is directed to private nonprofit schools is of less importance now than recognition of the principle that such aid should be forthcoming, followed by implementation of the principle. Certain priorities do of course stand out among nonpublic school needs in the area of Federal assistance—these needs are the same as those of the public schools—and I hope will be given legislative acknowledgment. Thus, the first need of the present time is for support of instructional personnel costs; the second is for financial assistance for teaching equipment, materials, and facilities in order to improve the quality of instructional services.

It is in these areas that rising expenses most seriously affect the ability of private nonprofit schools to continue, and Federal assistance, if it is to be meaningful, must take this fact into consideration. There are imaginative ways by which substantial aid can go to nonpublic school children in these areas, such as where the assistance is directed to secular subjects and helps to achieve the public purposes of education. Such an approach has been successfully embodied in the purchase-of-services plans enacted within the last year and a half in several States. In any case, it is clear that for the Federal government to furnish such aid for public school children and not to furnish it equally for nonpublic school children would contribute to the destruction of private nonprofit education, as we now know it. The Federal government would make a major contribution to the improvement of American education by assistance directed to instructional personnel costs and equipment and supplies, since the quality of education is directly related to the quality of the teacher and to the effectiveness of the tools with which teachers and students must work.

With regard to equipment and facilities, Catholic schools are open to arrangements whereby title is vested in public officials, provided only that their students have fair and unimpeded access to such equipment and facilities. Again, Catholic schools are prepared to explore the possibilities of such things as shared-time plans for the utilization of new or existing facilities. I mention these things not to urge them upon the committee but simply to indicate the willingness of Catholic schools to consider a variety of approaches, unhampered by fixed ideas to the effect that only one legislative solution is possible or acceptable.

There can be no question of the urgent need for improved facilities of schools in many parts of the country, especially in low-income areas and large metropolitan areas. Our cities are burdened with school plants geared to nineteenth century requirements—when what are needed, particularly in low-income areas, are school facilities capable of providing the creative education needed by young people from disadvantaged backgrounds. What is true here of the public sector of education is equally true of the nonpublic sector.

Mr. Chairman, I am pleased and honored at the opportunity to comment on the important legislation it is considering. The holding of these hearings is testimony to Congress' commendable recognition of the Federal government's role in education. Considering the financial problems of the schools—and of the States and Localities from which they receive most of their funds—it is clear that in the years ahead the Federal government will have to increase its support of education substantially in order to fulfill its responsibility.

Mr. Chairman, your committee has listed as subjects for comment five bills regarding Federal assistance to education, four of which propose specific programs of financial assistance. I am pleased to note that each of these four bills attempts to make some provision for the participation of private nonprofit schools and their pupils in the benefits of the Federal funds.

Before commenting on the individual bills, I would like to commend the authors and sponsors of all of them for their recognition that Federal assistance to education should benefit all children, whether they attend public schools or private nonprofit schools, including church-related schools. It occurs to me that this recognition is the first step toward development of a truly adequate Federal policy for education in the 1970's.

As I have noted earlier, the Supreme Court has recognized the public purpose of private nonprofit schools in our system of education. In addition, a growing number of States are adopting educational policies which utilize the private sector in education to serve the public purpose. I would urge your committee to take notice particularly of the actions of the legislatures in Pennsylvania, Connecticut, Rhode Island, and Ohio.

It is now established policy in these States to provide State support for secular education in private nonprofit schools. The methods chosen by these legislatures vary somewhat from State to State, and include programs for purchase of services and salary supplements for teachers. An even larger number of States have adopted programs which involve State support of auxiliary services for children in private nonprofit schools.

The Congress itself, in recent years, has followed a policy of requiring the participation of children in private nonprofit schools as a condition for State and Local public school agencies to qualify for

Federal financial assistance. I need not mention all of these actions since the members of this committee are the ones who have provided the leadership in the development of this emerging national policy. For the record, I would mention the Elementary and Secondary Education Act of 1965, the Migrant Education Act, the Bilingual Education program, the various acts for the education of the handicapped, the Juvenile Delinquency Prevention Act and, of course, the Vocational Education Amendments of 1968, which originated with this committee under the leadership of the present Chairman. In all of these acts, Congress has made some provision for children in private nonprofit schools. The amount of participation and the means by which private nonprofit schools have been involved have varied with the educational needs of the children and the Federal purpose to be achieved. This is as it should be, and I would suggest that the same flexibility should be maintained in the development of future Federal assistance programs.

Congress has the power, and the ability, to vary its actions to achieve the Federal purpose, in the area of education, as well as in other areas of national concern. Thus, a program such as Title I, ESEA, to improve the educational opportunities of economically and educationally-deprived children might adopt one approach for the private nonprofit schools and their children, while a program of improving library and instructional media services, such as Title II, ESEA, adopts another. In terms of the bills pending before this committee, my point is that the provisions of Title I, ESEA, might, or might not, be an appropriate method for achieving the public purpose of educational opportunity for children in both public and private nonprofit schools.

H.R. 10833 seeks to provide a system of Federal grants to States and, ultimately, local education agencies for "improving elementary and secondary teachers' salaries, for meeting the urgent needs of elementary and secondary education, and for other purposes." All school-age children, those in private nonprofit schools as well as those in public schools, would be counted in determining the amount of Federal funds which each State would receive. But there is no adequate requirement that all children would receive the benefits of the expenditure of the Federal funds. Authorization is given for use of Federal funds, in limited amount, to provide for "shared-time" programs for children in the private nonprofit schools. While "shared-time" is one method by which private school children can participate in some Federal programs, it does not seem appropriate for a program directed at improving teachers' salaries. I would suggest, if Congress is to provide Federal supplements for teachers' salaries, that the Act require the States to provide equal supplements to the salaries of teachers in private nonprofit schools who are providing secular educational services. This is being done in some States and it would be a proper use of Federal funds.

H.R. 11546 would provide a national program of assistance to the States for the stated purpose "of achieving equalized excellence in schools throughout the Nation over a ten-year period." As in H.R. 10833, all school-age children are counted in determining the amount of Federal financial aid grants to the States, but the children in private nonprofit schools would not share equally in the benefits. Educational excellence and equalization of educational opportunity are desirable goals for a Federal program. The inclusion of language adopted from Title I of the Elementary and Secondary Education Act of 1965 (Section 7 (a) (2), of the bill) that provision be made for children in private nonprofit schools through such programs as dual enrollment and mobile educational services would not achieve the stated purpose of the bill.

If our goals are excellence and equalization of opportunity, the Federal act should include provision for equal sharing of Federal funds to improve the educational opportunity available to children in private nonprofit schools. A requirement that States utilize the Federal grants to purchase secular educational services, to provide salary supplements to teachers of secular subjects, or to provide facilities for secular education of children in private nonprofit schools could be included in any Federal act along the lines of H.R. 11546.

H.R. 517 would provide Federal grants for construction of elementary and secondary schools and supplemental educational centers. The program would be directed toward improving facilities for "areas with concentrations of children from low-income families" and Federal funds could be used for construction, reconstruction, renovation, and improvement of elementary and secondary school facilities (including preschool facilities) to meet the special educational needs of educationally deprived children. The same standards that would be applied for determining the needs of public school children could be applied to the needs of children attending private nonprofit schools. While H.R. 517 makes some provision for children in private nonprofit schools to participate in its benefits—by providing for special projects in which they may take part under shared-time or dual enrollment arrangements—the bill is deficient. I submit that, in a construction program, Congress should provide in clear language for facilities for private nonprofit school children in the secular areas of education which have been recognized by some States and the courts.

Congressman Delaney in a singularly eloquent presentation of his bill, H.R. 776, has provided the committee special insights on parental rights in education and the abiding American dream for equity. He emphasized the need for diversity as a cardinal element of education in a pluralistic society. His suggested solution to the crisis in education is to authorize an annual financial grant to each child attending school—whether public or private nonprofit. His confidence is resided in parents to make a prudent choice for the educational welfare of their children. His method is a simple one; merely provide the parents with an educational grant to be made available to the school selected for the education of their children. He would limit payment to children attending private nonprofit schools to the endorsement of both the parent and an appropriate school official of that institution. Payments for public school children would be made directly to a school district. In this way the bill assures that the Federal grant is in fact applied to education—a valid public purpose that the Federal government is free to support. The bill prohibits Federal interference. We believe the bill would be strengthened if provisions were adopted to make clear that private nonprofit schools were free to use payments only for the secular aspects of education provided the children in those institutions.

H.R. 9866 would set forth a Congressional statement on a national educational policy and direct the Secretary of Health, Education and Welfare to initiate a comprehensive study on the formulation of a plan to implement such a policy. Such a Congressional statement would seem to be needed and the one proposed by H.R. 9866 appears to be adequate. I would like to note that, as formulated in H.R. 9866, the statement of national educational policy would recognize the role of both public and private nonprofit educational agencies and institutions. Thus, I would endorse the purpose of H.R. 9866.

Naturally, any future Federal-assistance-to-education programs should spell out clearly the recognized prohibition in use of public funds for "religious" instruction or worship. But such prohibition need not inhibit the Federal government in its legitimate purpose of improving the "secular" education of all children, those in private nonprofit schools and public schools. This nation has an educational system which recognizes and approves pluralism and parental rights. Any Federal aid program should do the same.

In concluding, I would like to point out that Catholic schools, despite their present grave financial problems, are not seeking 100 percent subsidy—or anything approaching it—from public sources. Catholics remain committed to their schools and to their support. What they are seeking now is simply the rather minimal additional assistance—over and above their own continued voluntary support—which will make it possible for these schools to continue in business as quality educational institutions. The public policy considerations in favor of government aid to nonprofit private church-related schools are overwhelming. First, mass closings of these schools would result in financial—and educational—chaos in the public schools and a greater burden on taxpayers. Second, as the Supreme Court has pointed out, church-related schools give secular education to their students, and thus they perform a true public service function which can and should be aided by government in view of its concern for the quality education of all citizens, not just those who happen to attend public schools. Third, the continued existence and health of nonpublic schools are essential to educational pluralism in our pluralistic society, and to true freedom of choice in education and the maintenance of healthy competition in educational matters.

STATEMENT OF RABBI MORRIS SHERER, EXECUTIVE PRESIDENT, AGUDATH ISRAEL OF AMERICA, NEW YORK, N.Y.

December 3, 1969

Agudath Israel of America is a national Orthodox Jewish movement which has for almost a half century been involved in the educational interests of children. Our leadership includes the most distinguished scholars in Judaism, and our membership includes thousands of parents of school children, primarily attending Jewish all-day schools.

Together with all Americans, we deeply sense the urgency of massive increased aid to the educational needs of our country's children in the seventies. Education is at the root of all our domestic problems, and despite all the other pressing commitments of our government, we will have to face up to this fundamental need to provide quality education to *all* our children.

In coping with this problem, it is our plea that you should not overlook the needs of those children whose parents have chosen to enroll them in nonpublic schools. And on this issue, let us not mince words. We have moved forward a giant distance since I first appeared before the House Education Subcommittee almost a decade ago to plead for the recognition of the nonpublic schools as equal partners in the American educational plan. This concept, which seemed revolutionary at the beginning of the sixties, is now an accepted mode of thinking at the beginning of the seventies.

This progress is evident in the declaration by the United States Supreme Court in the 1968 *Allen* decision that "This judgment is further evidence that parochial schools are performing, in addition to their sectarian function, the task of secular education." The new long-awaited Master Plan for New York City, recently made public by New York City's Planning Commission, clearly maintains that a method must be found of subsidizing the nonpublic schools.

The question, then, is no longer whether or not nonpublic school children should be included in government education aid programs; it is: what form this method of support should take. The fact that modern educators are already preparing for this certain eventuality can best be seen from the recently-released report by the State Education Department of the study made by the State University of New York on the various possibilities for expanding financial assistance to nonpublic schools.

We urge that your committee, in considering any education aid legislation, should be mindful of the importance of guaranteeing equal treatment for nonpublic school children, as relates to their secular studies. The era of tokenism, of attempting to appease the nonpublic school interests with left-over crumbs from the public educational table, is now over as we enter the seventies. The spiraling costs of tuition have transformed the basic American right of freedom of choice for education into a myth and an illusion. If we are to help these nonpublic school children, then let us do it in a meaningful manner and not merely go through the motions of pacifying so-called "pressure groups."

With specific reference to several of the bills before your committee, H.R. 776, the "Schoolchildren's Assistance Act of 1969," introduced by Congressman Delaney, is basically sound in its concept because it is based on the child-benefit theory which has become a pillar of American thinking on education aid programs. While the amount of the allotment leaves much to be desired, it nevertheless deserves very serious consideration because conceptually it hews to the new educational thinking of the seventies: *all* school children must be treated alike.

The concept of "shared time" implicit in H.R. 10833 and H.R. 11546 makes these bills unacceptable to us because "shared time" is an unrealistic solution to a real problem. Parents of children attending Jewish day schools, for example, would refuse to cooperate with a program which flies in the face of the basic educational philosophy of the Jewish-sponsored schools, which attempt to mold the entire personality of the child into one homogeneous unit through utilizing teachers who are compatible with the over-all aims of the school.

H.R. 9866 is meritorious and deserves support, because it calls for a commission to make a comprehensive study of our national educational policy, and demonstrates common sense by including representatives of the nonpublic educational systems.

The question which we must answer is how can we forthrightly develop educational programs which would provide a realistic fair share of the American educational dollar for nonpublic school students, so that in practice—not only in theory—they should cease to be second-class citizens. The seventies will determine the fate of our American society, which is torn apart by many conflicts. A better education, which would counteract the mood of permissiveness and self-indulgence that has engulfed the youth of our nation, is the key to a better America.

STATEMENT OF RABBI BERNARD GOLDENBERG, DIRECTOR, SCHOOL ORGANIZATION AND PROFESSIONAL SERVICES, NATIONAL SOCIETY FOR HEBREW DAY SCHOOLS (TORAH UMESORAH), NEW YORK, N.Y.

December 4, 1969

I have the honor to represent the National Society for Hebrew Day Schools—Torah Umesorah. Our appreciation is hereby extended for this opportunity to present the position of the American Hebrew Day School Movement on the educational needs of the seventies. The movement comprises 362 elementary and secondary schools throughout the States which offer programs of instruction in both the secular and religious areas of study.

Our organization was founded in 1944, in order to foster the growth of Hebrew Day Schools in America. At present, there are 362 Hebrew Day Schools in the United States, of which 246 are elementary, while 116 are secondary schools. These schools are located in 125 cities in 29 States from coast to coast. The aggregate student enrollment of these schools is 73,000. Our organization was directly instrumental in founding nearly 300 of these schools, but we service all the schools in the movement through the provision of administrative and teaching personnel, supervisory services, curricular programs, textbook materials, loans and grants, educational aids and literature. We sponsor five teacher training institutes in New York, Baltimore, Chicago, and Cleveland, respectively, as well as a National Association of Hebrew Day School Principals and a National Association of Hebrew Day School P.T.A.'s. Our national body is acknowledged to be the representative agency of the Jewish Day School movement in America.

The Jewish Day School has the objective of providing intensive instruction in both the area of secular, general education and that of Jewish religious education, and it seeks to accomplish both on highly exacting levels. It strives to inculcate in its pupils a rich knowledge and fervent love of their American heritage and homeland, a firm sense of civic responsibility, and an enduring commitment to the pursuit of academic excellence in the sciences and the humanities, side by side, with a high regard for ethical norms and abiding loyalty to the principles and precepts of the Jewish religious tradition. In essence, the Hebrew Day School is committed to the building of a synthesis between the values of Judaism and the best of American culture.

It should be noted, also, that while almost the entire movement is united in basic principle, the Hebrew Day Schools are most properly classified as private schools, since they are individually autonomous in operation. They are likewise maintained financially in part by payment of prescribed tuition fees on the part of the parents of the pupils, and in part by voluntary contributions made by sympathetic individuals and groups. On the average, approximately 40 percent of the budgets is covered by tuition. The tuition rates are approximately $400 to $600 per year; but in the large metropolitan communities, where the majority of these schools are found, a large percentage of the parents have very limited economic earnings, which makes them dependent on tuition grants, should they wish to enroll their children in a Jewish Day School. Since Day School parents consider both Day School religious instruction and the finest possible program of secular instruction as equally vital for their children, the economically underprivileged among them are faced with the agonizing choice of either failing to provide adequately for the religious education of their children, or of being driven into desperate financial straits when they seek to send their children to Jewish Day Schools—whose standards are themselves jeopardized by inability to meet the constantly rising budgetary requirements imposed by the needs of our time.

With reference to the achievements of the Day Schools, the scholastic standards maintained by these schools throughout the country and the subsequent record of academic achievement of their graduates have been exemplary and have won the enthusiastic approval of many public school educators as well. Amongst the graduates of Hebrew Day Schools, there is an impressive number of personalities who have won national and international renown in the professions, in academic and scientific endeavor, in the judiciary, and in government service.

With reference to the General Studies Departments of the Day Schools, it should be noted that their curriculum is patterned after the course of study of the public schools, with much help and cooperation extended by local superintendents of schools. Their cooperation has been so exemplary that Day School devotees have often noted with pride that some of the "best friends" of the Jewish Day Schools are public school educators. The teaching personnel in the General Studies Departments are often themselves public school teachers, and are of widely varying religious backgrounds.

The seventies, like the often ridiculed prosperity of the thirties, are not just around the corner—they are already here. And the hour glass which is ticking away the end of the sixties is introducing us rather quickly to the crowded agenda of the seventies.

Obviously the agenda of the seventies has many explosive issues. But some of the explosive issues can be efficiently defused by setting higher educational goals, a more resolute moral purpose, and a greater role for government in education. If the past decade (post-Sputnik) alerted us to the need for educational excellence, then the next decade must make such excellence commonplace—if we are to survive and if we are to survive as one nation indivisible with justice for all.

One of the pressing items of the seventies is that of students attending nonpublic schools.

As parents, as Jews, and as educators—deeply devoted to both education and educational excellence—we feel that a rethinking on this problem of Federal aid to education is long overdue. Ours is an age when the pursuit of education is vested with an unparalleled urgency. Can we in this urgency deny millions of children attending nonpublic schools responsible educational opportunities? Is the social good of our society served by an approach which looks the other way while these millions of children are then imperatively urged by our own society and its built-in tensions to pursue educational excellence?

A G.I. in Viet Cong is not asked whether he attended a public or a nonpublic school—only that he be ready to lay down his life for the sake of his country and its institutions. His G.I. dog tag says nothing of the school he attended. The nonpublic school then served the state's and society's purpose—did it not?

A scientist at Cape Kennedy pushing ahead the frontiers of space conquest for the sake of a stronger America is not asked whether he learned his basic science in a public or nonpublic school but only that he contribute his brain and his dedication for the sake of his country. The nonpublic school then served the state's purpose, did it not?

A research fellow at a university turning his nights into days so that we—all of us—can be cured of what is incurable—is not asked whether he obtained his initial schooling in biology or his motivation to serve humanity in a nonpublic or public school. We ask only that God speed his efforts.

The nonpublic schools then served the state's and society's purpose. Let us ask ourselves, is America richer or poorer because of these young men and women who have received their education in nonpublic schools?

Let us note with a full measure of certainty, we ask not for support of religious aims and purposes—for we are staunch believers in the principle of church-state separation. We do, however, feel that Congressional concern for the seventies and onwards should allow millions of citizens-in-the-making to share in a reasonable manner in the educational efforts of our great country. *It is not the creed of the child which should be the focus of our concern, but rather the need of the child.*

The state hesitates not one moment in prescribing standards and curricula for our children and in demanding scholastic achievements. These we welcome with enthusiasm. With it, however, we would also welcome a modicum of understanding of our needs and a recognition of our basic plea which is to recognize the legitimate secular *educational need of the child rather than his creed.*

Under the supervision of the state, we serve the public welfare by providing an educated citizenry. Standards are set. Credits are transferred. Our nation in its defense forces, in its scientific quests, in its strivings for moral perfection, in its educational goals of good and welfare, accepts correctly the nonpublic schools and their students as part of the national establishment. Thus, we are *de facto* and *de jure* part of the educational establishment and the state, but we are aliens—illegals—when it comes to financial support.

Let me also discuss another basic facet of democracy which will need sharpening in the crowded agenda of the seventies. Pluralism in education is the right to choose between educational alternatives without penalty. But if we are to have a pluralistic educational system, with all the good it implies, then such a system needs the financial encouragement of the state.

No less a dispassionate group than the U.S. Chamber of Commerce favored this approach when in its 1966 Task Force Report it recommended "the Federal government should consider legislation which would enable communities to adopt programs establishing a public-private option for all children."

A financial penalty attached to the exercise of one's conscience is an infringement of free exercise. While the creative sense of shared purpose is the very greatness of a free people, there is no freedom of choice in education if parents have to pay substantial costs for educating their children, while free schools beckon them.

The law sensibly commands us to send our children to school. And our conscience commands us to send our children to schools of our choice which we can ill afford. Thus there is an infringement on our freedom of conscience and choice. The gap must be bridged. And the bridging of that gap will produce a greater, stronger, and more resolute American society, rich with promise, abundant in loyalty, fulfilled in its vision of a more beautiful America.

One additional point ought to be vitally considered.

In the educational symphony that will allow the students of the seventies to taste of the American dream and spirit, it is imperative that the student in the nonpublic school be given his rightful role to play. Such a role in the seventies is no longer one of permissiveness. Such permissiveness was ascertained when our glorious country was born. Now it is the responsibility of the proper governmental agencies to guarantee our striving for educational excellence as it is our obligation to fulfill that goal and dream.

Many will be the voices as to educational methodology. A symphony, however, can only be one. The ideals of democracy, justice, and the ability to deploy skills learned in the school—this we are committed to do to meet the challenges of the seventies. Such a democracy as we desire breathes best in the nonpolluted air of a pluralistic society. Nonsupport of nonpublic schools serves as the death knell of a pluralistic educational system. Otherwise, pluralism becomes the equivalent of a parent in a high income tax bracket.

Only through such funding of nonpublic schools will we gain the desiderata of a true partnership in education. All sectors concerned, all sectors treated fairly. And let no one tell us that the choice of nonpublic school education is the equivalent of a private choice involved in the purchase of a Cadillac.

If one of our children in a poor neighborhood of Brooklyn does not receive the help or the guidance he needs—does this refusal aid or abet the growth of our society? For a child who does not learn to read because of absence of a remedial program may grow up to be a menace to society, no matter which type of school he attends.

If the dream of a young scientist-to-be is shattered by the cruel bind of an under-financed science program in the nonpublic schools, does this contribute to the fullness of the American dream or the wonderful potential of a fully-educated, creative American society?

In this effort of the seventies to aid the nonpublic school student, we ask not for any wall to come down—except the wall of unfounded fear. We ask not for any principles to be shattered except the unholy principle of discrimination against millions of children.

We look to Congress to lead us out of a blind alley into the free thoroughfare of creativity in education and responsibility to society. And that responsibility will include high on its scale of values the strengthening of the public school and guardianship of the principle of church-state separation. We look to you to make this exodus to full freedom and equality possible. Such an approach will allow full fruition in education for the principle of pluralism that is indigenous to democracy.

Let us unshackle ourselves so that we deal responsibly with the genuine twentieth century task of the educational excellence of American society. Let us not deal with the urgent problems of today and tomorrow with the binds and frustrations of yesterday.

STATEMENT OF MELVIN M. KIESCHNICK, SUPERINTENDENT OF LUTHERAN SCHOOLS OF MICHIGAN AND REPRESENTATIVE OF CITIZENS FOR EDUCATIONAL FREEDOM, ANN ARBOR, MICH.

December 4, 1969

It is not my intention to further document the need for Federal involvement in education. I believe we all concur that this need exists. I do want to reiterate the need for all Federal programs to be concerned explicitly about all of the people and all of the pupils of our great country. Since aid should be directed for the good of all pupils, I believe that the inclusion of children in the nonpublic schools is now taken for granted.

But my testimony this morning is to be of a somewhat more personal nature.

My experience in Hong Kong consisted of residing there and of serving there as a Director of Education for the Lutheran Church-Missouri Synod for the period of 1956 to 1965, and with subsequent education-business trips in 1966 and again earlier this year.

Hong Kong, a British Crown Colony inhabited primarily by Chinese, was the object of Japanese attack and conquest during World War II. At the close of the war Hong Kong had a population of some 600,000 persons. I believe only two schools were in operation. Educational facilities were virtually nonexistent. Even while it was making some attempts to adjust to peace, the Communists moved south in China and vast hordes of refugees flowed into Hong Kong so that the potential school population was growing literally by the thousands each day.

The makeup of the population can be characterized in many ways. But for our purposes the following is significant. The Chinese people are a people with a deep and profound respect for education. The teacher is the person with the highest standing on a scale of occupational values. Secondly, the refugee population had within it a tremendous educational resource of educated persons who understood the threat of a totalitarian system and had forsaken all to maintain their freedom. At the same time they brought with them the ills of the Chinese system and the results of years of war so that a high proportion of the adults, especially the females, was illiterate. Thirdly, they were largely a people who were used to a rural life and were now being forced to adjust instantly to an urban situation. And finally, it was a very pluralistic society. Persons from a whole host of provinces came, each with his own dialect. The rich and the poor, the educated and the illiterate, the Buddhist and Taoist, the animist and the Christian were all part of that vast cauldron of human chop suey.

How to proceed with an educational program of such staggering dimensions? Several premises emerged and became operational principles: 1. The entire citizenry must be caught up in and committed to providing education to as many people as possible. Total educational resources from whatever source must be exploited. The system must operate within the framework of a very pluralistic society and yet must unite a people. Fourthly, the very nature of the Chinese, though developed through centuries of existence, demanded that education have a heavy moral accent. And finally, because of the vast demands for housing, food services, medical services, etc., etc., the financial resources available must be used in absolutely the wisest manner possible.

Thus all those interested in education immediately operated with an incredible esprit de corps. There was a real determination to get the job done and to do it well. There was a great acceptance of the belief that a wide choice of educational opportunity should be provided the citizens. There was a conviction in the midst of great educational diversity that an operational unity could be maintained.

What developed was one of the most amazing educational histories ever recorded—from virtually no schools in 1948 to 2,350 schools in 1968; from less than 600 students engaged in formal education at the close of the hostilities to more than 1 million only 20 years later.

For our purposes today we shall examine only some aspects of the relative roles of the public and of the nonpublic sector in achieving this tremendous accomplishment.

It was agreed that some unified control over all schools needed to be established. Thus the state set up requirements for the registration and certification of schools. To the state was granted: (1) the right to set up the standards and to certify the teachers; (2) the right to protect the health of the children through control over school buildings, the number of pupils in each room, and size and ventilation of the school room; (3) the right to investigate the health of the teacher to prevent spread of tuberculosis; (4) the approval of textbooks; (5) general supervision of curriculum with students in all schools required to take government examinations at the end of the elementary school level and at the end of the secondary school level.

At the same time the local schools had their own boards of control, they selected their own principal, they hired their own teachers, they devised their own timetables, they developed their own curricula within the broad categories of the state, and they controlled the entrance into their schools.

However, the state went farther than just granting the *right* of the nonpublic school to exist. The state realized that it was in its own interest to *encourage* the existence of nonpublic schools. The state solicited the advice and consent of the nonpublic sector in all matters relating to education. The state provided a wide variety of resources to help educate the children in the nonpublic school.

It did so partially on the basis of sound economic principle. Funds were limited. If the state can have a good citizen educated in a nonpublic school, and can derive this education at a cost of, say, one-half that what it would cost in the public sector, the state figured that this was sound financial thinking.

Let me briefly outline some types of state aid to nonpublic schools which emerged:

1. Grants of land sites for school purposes. Nowhere is land more expensive than in Hong Kong. Much of the land was owned by the Crown. Thus the government provided to private groups 99-year leases on land. The annual rent for the land was very minimal—more than $1 per year, but so minimal that cost of land would not be a deterrent to erection of schools.

2. Interest-free loans for the erection of schools. Schools built in places approved by government, designed in conformity with standards for the public school, could receive government assistance in the form of either 11-year interest-free loans or else 21-year loans at a rate of approximately 3 percent per annum. These loans would be available for up to 80 percent of the cost of the new school.

3. Construction grants. Certain schools to be erected in areas of particular need or serving children in particular needs were entitled to outright grants. These grants might be as high as 50 percent of the construction cost. In addition to the grants, the same building could (if qualified) also receive a 30 percent interest-free loan. In each case, however, the sponsoring group must provide at least 20 percent of the construction cost. And this cost could not be realized later from school fees. It represented the outright contribution by the sponsoring body. It was a part of its willing commitment to the total educational needs of the citizens.

4. Aid to children. Although some churches or other humanitarian organizations did operate some free schools, virtually all schools operated on receipts from tuition. Even the public schools charged a tuition of about $1 a month; however, this fee was waived in cases of proven financial need. In selected nonpublic schools the government did make available large amounts of tuition grants to parents of children. They were recommended by the individual school which had to establish criteria of financial needs. Some of these grants were based on need only, while others were based on a combination of need and scholarship. The payment went directly to the school, upon certification by the parent that his child was indeed enrolled during the month in question and upon certification by the school that the child had indeed paid his prescribed portion of the school fees.

5. Aid to teachers in nonpublic schools. Certified teachers in selected schools were eligible for a government subsidy paid directly to the teacher. The amount was based upon the number of periods per week which this teacher spent in courses, the content of which was at least equivalent to that taught in the public school. Such aid was granted as a subsidy in addition to that which the teacher received from the nonpublic school. The amount of the subsidy was such that the teacher could under no circumstances receive an amount greater than he would be receiving if he were rendering the same service in a public school.

Each month the nonpublic school supervisor verified that the teacher in question had indeed performed satisfactorily and had taught the prescribed number of periods. The teacher signed a statement indicating the exact amount received from the nonpublic school and the government sent the check directly to the bank designated by the teacher. In all cases the teacher had to be certified to be eligible. He was employed by the nonpublic school and responsible to it.

6. Block grants to schools. For a period of time selected schools operated under a block grant system. The school simply prepared its statements showing all expenses and all receipts, and the government made a block grant (within specified limits) to cover the difference.

7. Subsidized schools. The most liberal form of assistance went to schools designated subsidized schools. Fees received from parents were the same as in the public school. These fees were used for nonsalary purposes. All salaries and even some approved other operational expenses were paid by the government on the same scale to the nonpublic school as to the public school.

WHAT ABOUT CONTROLS?

There were controls.

1. All local school boards had to be approved by the government. The school boards were appointed by the sponsoring body but they were subject to approval by the state.
2. All teachers had to be certified.
3. All textbooks approved.
4. All school calendars approved.
5. Teacher/pupil ratio approved.
6. Examinations were given to all students in all systems, and nonpublic schools had to demonstrate the ability to perform up to norms.
7. Public and nonpublic schools accepted the same inspections from the state.
8. Uniform systems of accounting were introduced, all annual balance sheets had to be certified by a public accountant as accurate and submitted for review by the government.

WHAT ABOUT FREEDOMS?

Did the nonpublic school thus lose its identity and actually merely become a public school administrated privately? The answer is a definite "NO." And this is demonstrated by the fact that those operating schools include almost all major religious bodies, including Roman Catholic, Angelicans, Lutherans, Baptists, Methodists. It included several schools run by the Buddhists. It included nonpublic schools operated by the Chamber of Commerce and some even operated by labor unions.

Each of our schools was permitted the right to formal courses in religion. In our schools we had four periods of religion per week. In addition, we had weekly chapel services. Of course, we received no state aid for any of these activities. No teacher would be reimbursed for teaching these courses. But we had them freely.

The school boards were selected by the sponsoring body. It was these school boards who hired and fired the teachers.

The school had regular religious observances. The Christian celebrated Christmas, Easter, etc., while the Buddhists celebrated Ching Meng, etc.

The Christian schools often led the way in effective parent-teacher organizations. Alumni groups from our high schools were active in a wide variety of social and civic activities.

Graduates from the nonpublic schools had an excellent reputation in the community, received many scholarships, and were usually very well received by prospective employers.

The tremendous growth of the number of nonpublic schools and the fact that the government tended very much to expand additional aid to them, and their warm support from the general public all testify that it is an arrangement which is working well.

Relations between teachers in the schools were very cordial. We belonged to the same teacher organizations. We shared many in-service training programs. We had free communication relative to student transfers. There was often interexchange of facilities. All of this was based on a real feeling of mutuality. We all were concerned about all of the students. We wanted all the children to get as good an education as possible and to be able to receive this education within as wide a range of educational opportunity as possible.

BUT WHAT ABOUT THE PROBLEMS?

1. Proliferation of schools. Did every little group then want to run a school, so that everybody from the Little Red Church on the Hill to the Society for the promolgation of Yellow Power then establish schools? No. While such groups could within some limits under law operate a school, they really could get no government aid. The government carefully evaluated the sponsoring group's previous experience in operating schools. They looked carefully at community reaction to the group proposing to run a school. They looked closely at the stated reasons why a sponsoring group wanted to operate schools. They investigated which types of children the school proposed to cater to. Of very great importance was the manner in which the original size of the school was controlled. Within an urban area the minimum size for a public school was 24 classrooms; this also became the minimum size for an aided school. The minimum size for a public school in rural areas was six classrooms. The same applied to the nonpublic schools. All applicants for aid had to prove that they were not for a financial profit school. Actually, some schools in Hong Kong did make a profit but these were not run by nonprofit organizations, nor were they ever eligible for any form of financial aid from the state.

2. What about use of facilities for strictly church purposes? This was very carefully controlled. If a church were erected on a site next to a school, that site had to be purchased by the church from the state. Even if one floor of a three-story school building was used for religious purposes, one-third of the cost of that land would be paid for.

3. Budget appropriations for education stipulated that a minimum of 51 percent of the state education budget for elementary schools had to flow to public schools. Thus we could continue, but I think Hong Kong successfully resolved the dilemmas.

(1) Aid to nonpublic schools was legal.

(2) Aid to nonpublic schools was not divisive; in fact it built a stronger community.

(3) The entire system made the public schools stronger—not weaker. They were stronger because they had someone with whom to share the total cost of operating all the schools. They were stronger because of the competition which naturally existed between all schools. They were stronger because of the cooperation which existed between all those concerned about education.

(4) We learned that nonpublic schools did not give up their distinctiveness. Christian schools were distinctive from Buddhist schools, public schools from Catholic schools.

(5) The right of the parents to send their children to the school of their choice was fully protected. They honestly had a wide choice. The fact that all quality schools prospered merely reflected the divergence which existed in society.

(6) The schools really were a uniting element—not a divisive one. Each made its contribution within the total context of the needs of the society.

(7) The church-related schools were allowed to make their distinctive contributions. Not only did the Christian schools become laboratories for their distinctive type of Christian love, but these schools met specific humanitarian needs. For example, when a great need for education for the deaf was demonstrated, the Lutherans provided technical expertise from the U.S.A. and the local government provided the operating funds for a school for the deaf. When it was obvious that the secondary school program was primarily college preparatory while society demanded vocational training, the Hong Kong Government provided land and building, the local business community provided machinery and equipment, and the Lutherans provided staff, administration, and job placement services. Even the school for English-speaking children (the one attended by virtually all U.S.A. consular staff) resulted out of complete cooperation between the Hong Kong Government and the Lutheran Church.

Now what are some implications for us:

A crisis situation confronted all of us in Hong Kong in the early 1950's. It became an opportunity to work together for the common good. Government, industry, the church all were eager to assume a vital role in meeting a great challenge. I submit that the challenge facing education in America is equally great. The challenge must first of all be viewed as one entity. In Michigan I see a crisis in education facing the sparsely populated rural areas which is comparable to that of the core of Detroit or Pontiac or Grand Rapids. As I travel extensively across the U.S.A., I see educational needs in all the States, be they New York, Michigan, Oregon, Mississippi, or Oklahoma.

This is a time for all of us interested in education to learn to work together. We must find supportive roles for Federal, State, and local government. While the need for public education is obvious, the distinctive contributions of the nonpublic school and of the church-related school were never more vital than they are today. We must all participate and, with each doing our thing, do the whole thing together.

This has not always been the case in the past. Suspicion and distrust have existed not only between the Federal and the State levels, but also between the public and the nonpublic sectors. Sometimes the fault frankly lay with the public sector. There are some loud voices in the public sector today proclaiming that the nonpublic school has no valid role in America in the seventies and that it should die. Sometimes cooperation has been lacking and this applies also to Title I programs because the public school superintendent in a given area refused to admit to an educational concern for *all* the children in his district, and he simply pretended the students in the nonpublic school did not exist.

But I must also confess that sometimes the fault lay with us in the nonpublic sector. We practically refused to acknowledge the public structure and made no effort to build bridges. Sometimes, especially as it relates to Title I programs, we simply did not utilize trained personnel to be actively involved in writing programs and securing for our students such benefits as you, the members of the Congress, had provided for the nonpublic school children.

My pledge this morning is that I want to build on my Hong Kong experience and want to bring to the American scene that same degree of cooperation and mutuality as existed in Hong Kong. And I want to assure this subcommittee that the constituents whom I represent are most willing to do what is necessary to achieve this harmony.

We of the nonpublic school are one of many groups which share a common concern for education. All who are interested in education should be viewed as partners, not as competitors.

We feel very strongly that Hong Kong demonstrated that State aid to nonpublic schools even on a very massive scale did not lead to the death of the public school system.

If the right of parental choice in education was achieved by a government in a colonial setting, is it not much more important that this right of choice be strengthened in a country claiming democracy?

In conclusion: One of the reasons the system is working in Hong Kong is because of the resilience, the ingenuity, and the resourcefulness of the Chinese people working in cooperation with a British colonial government. I am certain that we citizens of the U.S.A. are equally resourceful, have an even greater spirit of democracy, and have a true willingness to work for the common good and that when these people express their will through enlightened representative government that the schools which we establish and operate will indeed make for even more significant contribution to good government and the happiness of mankind.

STATEMENT OF MARILYN F. LUNDY, SECRETARY, NATIONAL CITIZENS FOR EDUCATIONAL FREEDOM, GROSSE POINT, MICH.

December 4, 1969

As we currently struggle in my home state of Michigan to resolve questions of educational reform, particularly in the area of including nonpublic school children in the State aid formula, I salute you and your progressive deliberations which faced up to this question some four years ago. In your wisdom, you recognized the need and rightness of including nonpublic school children in new forms of Federal aid to education, and passed ESEA accordingly. I am sure you are aware that there are serious problems and inequities in the implementation of the various programs incorporated in ESEA, which of course is why you are deliberating on new bills. But the point is, you were years ahead of our State legislatures in understanding of the principle that governments do have a responsibility to all children. We thank you. We look forward to even greater strides in the current Congress. And we offer our fullest cooperation in any manner you would deem helpful.

In conjunction with the rightness of including nonpublic school children in State or Federal formulas of aid, I have included a short rationale which has been worked out as a result of meeting the objections of opponents over the past few years. Certainly with your background and knowledge of the issue, you are well aware of most of the points incorporated, but the authors thought you might welcome such a rationale as a handy point of reference, or a means of persuading some other less enlightened colleagues or constituents.

Now to bring myself to the business at hand, which is the consideration of further Federal legislation in the area of education. I would ask your permission to speak as a parent, as a citizen and as a taxpayer. And in this vein, I would like to center primarily our attention on the proper relationship among the parties involved in education—namely, the parents, the child, the school, and government.

Certainly for many days and weeks, both in the past and to come, you are hearing learned dissertations based on educational theories, constitutional or historical aspects, and financial problems and/or possibilities—all most valid and certainly most important before decisions can be made. But through the years that I have worked on this issue of aid to nonpublic school children, I have become very conscious of the fact that attention can become so intense on certain pet educational, historical, or financial aspects that sight is lost of the basic reason we promote education and the basic reason government funds it. So to help us keep a clear perspective, I would ask you to draw in your mind's eye a triangle, a good strong triangle, and label it thus—in the center, the child; on the base, the parent; on the left side, the school; and on the right side, government.

Purposely in the center is the child, because education is the formation of the child to prepare him to live in society today, and to grow to his fullest potential both in this world and in life hereafter. On the surface, education today might seem to be more an accumulation of institutions or of instruction and skills and memory, but these are the necessary tools used to help students understand the past, live in the present, and be prepared to help plan the future.

In the strong basic position is the parent who has the basic responsibility for the formation of the child. It is to the parent the child was given, and it is to the parent that both God and society will look for accounting. Hence it is the parent, and not the state, who has the primary right to direct the education of the child and establish the moral and philosophical values inherent in that education. In generations past, parents themselves were often able to carry out this responsibility, but as society has become more complicated and education more sophisticated, schools have come to be the practical form of bringing children together and offering them professional help in their educational processes. These schools and their teachers, however, must still be recognized as extensions of the parents, and agents to whom the right to teach their children has been delegated by the parents.

On the third side of the triangle is government—the latest addition to the educational scene. Again, as education became more costly yet more vital, governments have stepped in for the good of society, and made education compulsory, taxed to support it, set standards to protect children, and operated schools. If we question why, we know it is technically because educated citizens are a prerequisite for good government and a productive society; but more humanly because education is a basic need of man in his struggle to exist and in his guaranteed pursuit of happiness.

Thus we complete our triangle: the base, which is the parent, and the two supporting sides which are the schools and government—and in the center is the child. This, most honorable ladies and gentlemen, is the point we must keep clear. The child and his education must be the focus, the center of our educational efforts and taxes. Unfortunately there are those who become so enamored with educational processes and programs that they begin to think the school is the Alpha and Omega with the child merely a pawn to be moved from desk to desk or educational experience to educational experience. Others are so concerned with governmental responsibility that they would make government the arbiter of education, the primary agent and final voice. Between these two extremes, the child and the parent, the very ones for whom schools and governmental help exist, become shadows lost in an institutional and governmental maze.

Under our theory of government in the United States, this is unacceptable. Government and institutions exist for the people, and not vice-versa, and if ever this idea begins to get a little hazy, or the people a little lazy, then it is time we shake ourselves and clear our vision. Now is that time, but what is our vision? It is the vision of a government whose legislatures pass laws to promote the basic needs of its citizens, while at the same time protecting, to the greatest extent possible and practical, the rights, liberties, and human dignity of its citizens. We have seen this exemplified in the area of Medicare and Social Security, where the individual may take his benefits to the hospital or nursing home of his choice, regardless of religious affiliation, thus providing for medical care but still allowing freedom and human dignity. In welfare, recipients are not required to buy at state stores but are provided with funds or vouchers to use according to their needs and beliefs. In higher education, though government institutions are provided, students in many areas are given grants and scholarships to use in nongovernment institutions. In these specific areas, and many others as well, government has kept its vision of promoting a basic need while still protecting, to the greatest extent possible and practical, the basic rights, liberties, and human dignity of its citizens.

Now certainly elementary and secondary education is a most basic need, and indeed, of such great importance that government turned its attention to it at a very early date. However, we will have to say that at that era in history, in the middle of 1800's, our governments were not as enlightened as is this noble body. Legislatures across the

States made education compulsory, taxed all to support it, set standards and operated schools—all of which is excellent. But when these legislatures then empowered government bodies to collect taxes from all but distributed them in return only to those who would sit at government desks, they ignored the constitutional rights, civil liberties, and human dignity of the many citizens in a pluralistic society who would choose other than government desks, government teachers, and a government philosophy or value system for their children.

The result of this today is the struggle going on in many States to make legislatures aware of their responsibility not just to set up school systems on a compulsory "take it or pay double" basis, but to promote the basic need of education and protect the rights of parents and children. The right to educate is the right to control, and in a democracy this right must belong strongly to the parents or we veer sharply toward totalitarian government. The freedom to choose a government or nongovernment, a religiously or secularly oriented school, is one of the most basic of civil liberties. And the power of parents to direct the development and formation of their children according to their conscience and culture is a basic element of human dignity—all of which are being seriously threatened today as a result of the severe tax penalty imposed on those who would exercise their rights.

Yes, for over a hundred years, State legislatures have contradicted our American theory of government in educational financing. Though this caused hardship and tended to demean a right into a privilege dependent on wealth or charity, it did not completely eliminate freedom because of the relative low cost of education, both public and private. However, under skyrocketing educational demands and costs today, what was once merely a severe injustice is now becoming an effective denial of freedom. It is this fact which is making more citizens anxious to speak out for new legislation. And it is this fact that is making legislators more ready to listen to the demands of justice, especially because of the accompanying financial crisis which will face public schools and taxpayers as more and more nonpublic schools are forced to close.

As a result, many campaigns for aid to nonpublic school children on both State and Federal levels are now being geared almost solely to the point of saving the taxpayers money. This is a compelling argument indeed, and does broaden support among many who either cannot or do not want to understand the principles. But to those of us who have labored long in the vineyard of educational freedom and have borne the heat of ridicule from friend and foe alike, as well as the accusation of being un-American, it would be disastrous to abandon the issue to expediency and economics. Without the basic principles of parental rights, freedom of choice, and justice, without our favorite triangle of parent, school, and government centering around the child, we would be building a foundation on sand, and I for one would be the first to fold my tent and quietly disappear. What we must have, and do have, is a combination of right, justice, and economic necessity—a combination that is hard to dispute or defeat.

This brings to mind an experiment I saw some years ago to show children the advantages of combined materials for strength. A pencil alone can easily be snapped in two, and a metal tube of similar size is easy to bend. But slip the metal tube over the pencil, and the two combined are most difficult to break.

As pointed out before, you, our Federal government, has shown a greater understanding of the proper relationship of child, parent, school, and government. ESEA was a first step, and a big one, but as we know, and I am sure you know too, the benefits realized from the programs involved have been less than satisfactory and equitable. Not due to any lack of good will or intention on the part of Congress, but because of the historic difficulties on State and local levels of getting public educators to consider nonpublic schools worthy of cooperation or sharing. Of course there are exceptions, but the general picture is that when nonpublic school children are relegated to programs planned by public school officials or provided for only in public schools on shared-time basis, the overall results are often most discouraging.

As you consider new legislation to improve or expand Federal aid, I would beg you to remember that a child is a child is a child, and it is his education, his equal opportunity which must be paramount in your mind as a legislator, as it is in my mind as a parent and taxpayer. Of course you have the responsibility of finding best methods to fund programs which you believe to be the most needed and most equitable, and of distributing dollars in the most practical and productive manner. I respect this, but I would plead with you again to recognize that the needs of all children and the rights of parents cannot necessarily be met through the beneficence of public school administrators and programs. Neither can they be met through shared-time programs, even though some would raise this as the happy answer to the problem of aid for children in nonpublic schools, both on Federal and State level.

Under shared time, the student is still forced to enter the public school to be eligible for any tax benefits, and the parent is still forced to submit to the government's choice in schools as a prerequisite of getting any return on his tax dollars—still a contradiction of our theory of government and our favorite triangle of relationships in education. Another fault to me in the shared-time syndrome is the concept that many academic subjects have no value system behind them and therefore could be pursued in a public school without offense to the parent. I find this hard to swallow because all education is based on a philosophy or value system; otherwise it is not worth its salt. And this value system must be based either on humanism or theism—there is no neutral spot in between. It should be noted here also that many public school teachers and administrators are afraid of any serious extension of shared time, recognizing that it would relegate public schools to instruction courses and deprive them of true value subjects.

But while addressing myself to the subject of shared time, I would also like to bring in some practical aspects. As a parent, I wonder who will supervise the movement from one school to another. As a parent, I wonder which school my child will be able to identify with, which basketball team, which debating club, which yearbook, etc. As a parent I wonder whether she will wear a uniform in the public school and be different, or not wear a uniform in the parochial school and be different. These may sound like minor problems, but they seriously affect the development of the child, and is that not what education is all about? As a taxpayer, I wonder why the State or Federal government can suddenly find funds for my child as soon as he walks into the public schools, but cannot find even one-half of that amount to help keep that child full day in the school of my choice. And if I were a teacher or administrator, I could not help but cringe at the thought of having to schedule hundreds of extra children in and out, in conjunction with the corresponding nonpublic schools. Admittedly, shared-time costs more for the taxpayers. Again as a parent and a taxpayer, I cannot help but ask why support such an artificial device which only splits kids in half and makes a nightmare of schedules and transportation. Why not use the same dollars for educational needs of children in the schools of their parents' choice?

Obviously then, I would ask you to support legislation which will give grants to all children on a per-pupil basis, and which would channel the money to the child rather than through State or local public education agencies. If this is not feasible because of administrative problems, I would suggest implementation of a nonpublic school authority or agency in each State, charged with the responsibility of accepting funds, approving programs, and distributing funds. As more and more States are finding themselves in the position of giving aid for various aspects of the education of nonpublic school children, such an authority might well serve a combined State and Federal purpose.

In the days ahead, yours is a most serious task. You will not only be allotting millions of dollars in the educational fields of all the States, but you will be setting examples and patterns for the legislatures of these States. You will be speaking out loud and clear on whether the Federal government believes the education of every child is important regardless of school attended, or whether the child is worth his oats only if stabled in a government-operated institution or being fed through that institution. You and our State legislatures have the control of our dollars—dollars which we parents would be spending on our own children's education if they were not taken from us as educational tax dollars for the good of all. Will these dollars be spent for the education of all children, or will they be used as a means of forcing more children into government-operated institutions?

We parents and taxpayers are confident you will find the right answers. We trust you to support our belief that the child's education is paramount, and that legislatures not only have the responsibility to promote his education, but also to protect, as far as possible and practical, the primary rights, civil liberties, and human dignity of the parents.

And we know your example will enhance and spread the message of educational freedom across the fifty States.

LIBERTY

Under the American theory of government, legislatures enact laws to promote the basic needs of citizens, while at the same time protecting, to the greatest extent possible and practical, the rights, liberties, and human dignity of citizens.

Education is a basic need, but parents, not government, have the primary, God-given and constitutionally-guaranteed right to direct the education of the child—that is, to choose or determine the philosophical orientation or value system of said education. Government may, for the good of society, make education compulsory tax all to support it, set standards, and operate schools, *but always as the delegated agent of the parents, and in no manner which usurps or denies the parents' primary rights.*

Since these rights exist, it follows that there must be the liberty to exercise them—that is, the liberty to choose the school or educaional values desired. It follows also that government must protect this liberty and neither impose or allow a legal or financial coercion to penalize or eliminate it.

(a) *Civil liberty*

If under the banner of civil liberties we guarantee citizens the right to live, work, and move where, when, how, and with whom they choose, especially without government coercion, how much more fundamental to guarantee citizens the right to educate their children according to their beliefs and desires either in government or in non-government schools—particularly since the "right to educate is the right to control," and education is a basic foundation of self-determination, human dignity, and the pursuit of happiness.

To force attendance at government-operated schools, either by legal coercion or the financial penalty of total loss of tax benefits, offends doubly by making the state the primary educator and by denying citizens a basic civil liberty. In the past, many attempts were made to create such legal coercion but always were defeated by voters and courts. Today, however, as education becomes more comprehensive, sophisticated, and expensive, the financial penalty resulting from sky-rocketing taxes and tuition is creating as effective a denial of civil liberty as legal coercion.

If we are to guarantee parents' civil liberties in education, and insure the proper relationship of parent, child, school, and government, we must remove, at least in part, the total financial penalty which now accompanies the exercise of that liberty. And this can only be accomplished by granting a fair share of our educational tax dollars for the education of children in the schools of their parents' choice.

(b) *Religious liberty*

(1) *In relation to the individual.*—In education, there is no such thing as religious neutrality. There might be an elimination of sectarian beliefs, but all education (education in its full sense, which is the formation of the child rather than just instruction in facts and skills) is based on a philosophy or value system, which in turn must either be based on God (theism) or man (humanism). Public, or "secular" schools, though neutral toward sectarian beliefs, are not fully religiously neutral, since their values are based on secular humanism. Hence, forced attendance, again either by law or by tax penalty, at such a school which is devoid of theistic values and permeated with secular humanism ("to ignore God is to most eloquently teach that He is unimportant") is just as strongly a denial of religious liberty

as forced attendance at a school whose positive religious, moral, or philosophical principles are contrary to those of the child and/or parent.

For those who would worry about their loss of religious freedom if their tax dollars might be applied in a school whose philosophy is contrary to their religious beliefs, we would remind them of the *greater* infringement on religious liberty for a parent who, because he is denied use of *his own* tax benefits, is forced to submit his child to an educational value system contrary to his own conscience.

And it must be remembered that aid to children in nonpublic schools would not support the religious institution or doctrines. It would assist in financing the compulsory, secular education of the child whether he is in a religious institution or not and irrespective of philosophical orientation. This is true religious liberty which would not ask Mr. Jones to support Mr. Smith's religion, but would ask Mr. Jones to recognize that Mr. Smith too should be able to use some of his tax benefits according to his beliefs, especially since Mr. Smith's tax dollars have been used according to Mr. Jones' beliefs for over 100 years.

(3) In relation to the nation—or, separation of church and state

Religious liberty under the First and Fourteenth Amendments of the United States Constitution includes both freedom *for* religion and freedom *from* religion as well as equal protection of the laws, and the United States Supreme Court has interpreted this to mean government neutrality to religions and religion *per se*. However, putting all educational tax funds into a school system based on secular humanism and excluding them from any schools based on theism, or denying them to children because there is a sectarian religious influence in the schools, puts government not into a position of neutrality, but of supporting one religion or value system (as dictated by the state) while discriminating against others. And to make this even more specific, secular humanism has been judged a religion by the U.S. Supreme Court in the Torcaso Case (1961).

The phrase, "separation of church and state," does not appear in the Constitution, nor were there at that time public schools or schools without religious orientation. Hence the Founding Fathers could not have intended support of public schools and exclusion of religiously-oriented schools. Instead, the true sense of the phrase is that neither church nor state shall control, favor, or be inimical to the other. And since our Judeo-Christian culture recognizes that both church and state are natural societies for the benefit of man, it must also be recognized that there need be not only neutrality, but cooperation between the two.

In countless other aspects of American life, there do exist such neutrality and cooperation, e.g., Medicare, Social Security, GI Bill, college scholarships and tuition grants, orphanages and foster homes. In these areas, religious institutions provide public services and citizens may use their tax-supported benefits in either public or nonpublic, religiously or secularly oriented institutions—and there is no cry over separation of church and state. In fact, it would not be difficult to imagine the distress and complaints that would arise if such

benefits could only be used in government stores, hospitals, or institutions or where religious influences had been eliminated.

In truth, aid to children in nonpublic schools would bring about a truer neutrality and cooperation between church and state in the most vital area of elementary and secondary education, and would remove government somewhat from the contradictory (and unconstitutional?) position of rewarding or penalizing citizens for their religious preferences in education.

JUSTICE

(a) *Social and distributive justice*

When government acts as a collecting and distributing agent for the tax dollar to fund a basic need (education) which is compulsory, yet over which the parent has the primary and constitutionally guaranteed right, in justice government may not distribute those tax benefits in such a way that the actual exercise of the right becomes dependent on wealth or charity.

Since all parents have the same right, since all parents are taxed for education (even the poor pay sales tax), since all parents are forced to send their children to school, and since all schools, whether government operated or nongovernment operated, provide a public service and meet State requirements, it follows as a basic element of both social and distributive justice that all parents should be able to benefit to some degree from their taxes when meeting State laws and standards in educating their children.

Under current educational financing, however, governmental penalizes those parents who exercise their rights by choosing nongovernment operated schools while at the same time it rewards those parents who exercise the same rights, but instead happen to choose government operated schools. This is a grave injustice which attacks the basic dignity of man in relation to the state, makes the state the controlling arbiter of educational systems and values, and demeans a God-given and constitutionally-guaranteed right to a privilege dependent on wealth or charity.

In practice, it is the poor and the underprivileged who are least able financially and politically to exercise their rights in education, and it is the ghetto children who are locked into secular schools without a chance of the dignity of freedom of choice. It is time indeed that our legislatures establish a share of justice in the distribution of educational tax dollars so that all parents, regardless of wealth, color, or creed, can in dignity determine or choose the value orientation of their children's education.

(b) *Justice to the child*

Educational financing is in essence the reverse of Social Security. In Social Security, the citizen pays while earning and benefits later when earning years are over. In education, the child realizes his benefits during pre-earning years and pays back during his earning years for this investment previously made in him. All children, whether they attend government or nongovernment operated schools, will not only repay throughout life in the same form of taxes, but will offer the same

services to their country and bear the same responsibility as citizens. Hence in justice to the child, government should make an equitable investment in the education of every child—not just select those who attend government operated schools and eliminate those in nongovernment schools.

(c) *Justice versus liberty*

Opponents to aid to nonpublic school children repeat that government does guarantee and protect parental rights and the freedom to choose a school, but this does not necessitate government's paying for the exercise of this right or this choice. They also claim that if a parent wants something different in education, he must expect to pay for it. The answer is that all parents (and citizens) are paying for education and for the right to choose, so it is not a question of government paying for the exercise of a right, but a question of *government not penalizing the exercise of the right.* Again, parents do expect to pay extra for what they want which is different from public schools (the religious or curricular extras), but they should not be expected to pay twice for the compulsory secular subjects simply because they do add, and pay for, extras. If a citizen pays for a private guard, he is not required to give up rights to basic police and fire protection.

In practice, financing of education brings us to the point that if a parent wants justice, he must forfeit liberty. Or if he wants liberty, he must forfeit justice. Yet in America we loudly proclaim *liberty and justice* for all. Why in education must we choose between the two?

PRACTICAL BENEFITS OF AID TO NONPUBLIC SCHOOL CHILDREN

(a) *Financial benefits*

As now proposed in several States, such aid would give the student in a nongovernment operated school less than one-fourth of the benefits he would receive in a public school, with such aid coming either as grants to students or to teachers, or in the form of purchase of services. Obviously it will take less taxes to give a partial share of benefits to a nonpublic school child than to bear the full annual cost and responsibility of that student in a public school, as well as the capital outlay for facilities. In this day of skyrocketing construction costs and salaries, it seems far more economical and logical to make full use of existing facilities and encourage increase of nonpublic school facilities than to purposely (or by default) force closing of nonpublic facilities and additions to public facilities.

Opponents point out that aid to nonpublic school children will absorb dollars from State coffers that are not there to use and that should be spent first on public school children if they were available. But facts show that if this aid is not forthcoming, thousands of children will be forced into public schools within the next few years—and for each new public school student, the taxpayers will have to find an initial $1,500 for construction costs, and $800 annually for general operations—either that or lower the quality of education. Is it responsible then, is it in education's and children's best interests, to insist on public school children first and only, when this will actually hurt these children by flooding public schools and inflating education costs?

(b) Benefits to community and nation

Aid to children in nonpublic schools would insure continuation of the resources and services of religious and other private educational groups who have made, and who wish to continue to make, great contributions to community and nation, not only in actual public services rendered, but in the addition of various factors to the American educational scene. Such factors include:

(1) An aspect of constructive competition, diversity, and innovation impossible under a monolithic government operated school system, yet which leads to a greater degree of excellence and efficiency at a better price.

(2) An effective ruler against which taxpayers, educators, and legislators can measure costs, efficiency, and results of public schools.

(3) Religious and moral qualities which can be incorporated in curriculum and offer positive values to the well-being, stability, and culture of the community and nation.

(4) The reality of educational freedom in America and the preservation of parental rights, civil liberties, and justice in education. Without the reality of schools from which to choose or dollars with which to pay for them, there exists the fact of a state monopoly of education, and regardless of how excellent the government schools are and how benevolent the government might be, such a situation is at odds with our concept of democracy, our protection of individual and minority rights, our fear of monopoly, and our support of civil rights and social justice.

In relation to community and nation, some opponents argue that to promote equality and understanding, all children of all races, creeds, national origin, and economic background should be educated in the same schools devoid of religious orientation. In defense, we would point out that though the goal has merit, it is one thing to offer such an opportunity, but another matter to enforce compliance against the beliefs and rights of citizens. We might ask also, which is more truly the American concept of democracy—enforced equality and homogenous conformity in a religious vacuum, or equal opportunity in conjunction with civil liberties, freedom of choice, and freedom of religion? Are we taxing ourselves to build an educational system to which citizens must conform, or to insure education for all citizens in a free and pluralistic society?

Sad indeed that in the name of democracy some would foster a totalitarian mode of education. Sad indeed that the wealthiest and freest nation in the world, while giving lip service to educational freedom, would, for all practical purposes, penalize such freedom out of existence. It is interesting to note that the United States is the only democracy which does not give some financial recognition to the education of children in nongovernment operated schools. In this area of education, the United States follows the pattern of totalitarian governments, while at the same time contradicting its own policies of restricting monopolies and promoting private enterprise in public services.

Surely it is in the best interests of the community and nation to promote the best education for the greatest number of children at the lowest cost to the taxpayers, especially when the package includes liberty and justice.

STATEMENT OF WILLIAM G. POLKING, EXECUTIVE DIRECTOR, CITIZENS FOR EDUCATIONAL FREEDOM, WASHINGTON, D.C.

December 4, 1969

I will concentrate my remarks on the question of what should be the role of Federal government in relation to aid to nonpublic schools and nonpublic school children and how may this role be implemented. Citizens for Educational Freedom believe that the responsibility of government in this area is to assure the proper education of all children equitably while preserving a viable exercise of the parental right of freedom of choice.

As members of this Subcommittee, you aware of the severe crisis which faces all education, both public and nonpublic, in this country. One particular aspect of this crisis, namely the financial crisis facing the nonpublic education, adds to and creates even a greater crisis for the public education sector, for the nonpublic school system serves the same public purpose as the public school system. It follows, therefore, that all education has a vested interest in the survival of the nonpublic education system. Yes, not only all education, but all segments of our society have a vested interest in the survival of nonpublic education.

We recognize that there are numerous Americans, as well as Members of Congress, who have great doubt concerning the advisability of the involvement of the Federal government in education. They express these doubts in a rational concern that such aid would lead to a monolithic system of education and a state-controlled educational system. We at Citizens for Educational Freedom, however, are only too well aware of these fears, for we are dedicated to the principle of the value of diversity and competing educational systems, as well as the principle of freedom of choice in education. We believe it is possible for the Federal government to provide assistance for education to all citizens of this country by underwriting every citizen's natural, civil, and constitutional right to an education with the enactment of proper public policy. Although there may be the absence of any specific reference to education in the enumerated powers of Congress, such involvement on the part of the Federal government can be justified and, indeed, has already been justified by the enactment of existing legislative programs.

The enactment of the Elementary and Secondary Education Act of 1965 was a beginning towards the expression of a viable public policy in the area of elementary and secondary education. Not only did this legislation serve as a landmark for the involvement of the Federal government on this educational level, but it enunciated the principle of recognition of the integral part served by the private and parochial schools in American education and established the precedent of committing the Federal government to the inclusion of private and parochial school children in Federal education programs on the elementary and secondary levels. The Congress of the United States realized that the nonpublic school systems of this country fulfill the same public purpose as the public system and that these school children have the same constitutional right to government aid as the children who chose the public school system.

The absence of private and sectarian schools from the American educational scene would leave the American system with a monolith where "freedom of choice" in a democratic system would be a disappointment and a mere illusion because the opportunity to exercise that right would be nonexistent. Recognition must be given to the contribution of the nonpublic schools of this country to principles long recognized as essential to our democratic way of life; namely, competition and diversity, pluralism, and, above all, the freedom of the individual conscience. We deeply believe that the preservation of good nonpublic schools, both secular and sectarian, is in the best interest of our American system. We are fully aware of the legal and constitutional issues, as well as the solutions possible, as expressed by the courts of the several States and of our nation. With this in mind, we call upon the Federal government to give effect to the following premises by translating them into sound public policy.

1. Nonpublic schools, sectarian and secular, serve the same public purpose as the public schools of this country.

2. Individual citizens have the right of freedom to choose a system of education and this right must be upheld and encouraged by the policies of the government and not limited or discouraged by such government policies.

3. We fully accept the First Amendment of the Federal Constitution and do not seek funds for religious purposes. We believe, therefore, that safeguards have to be used to prohibit the *direct* use of public funds for specifically religious purposes or for any program of religious instruction in the tenets, doctrine, values, or philosophy of any faith. At the same time, however, the First Amendment must not continue to be used as an unrealistic constitutional excuse or as a legal rationalization to deny equal financial assistance to certain citizens of this country simply because they wish to exercise the right of freedom of choice. Neither must this First Amendment interpretation continue to serve as an economic barrier to the opportunity to exercise that right. In this regard, it should be pointed out that we have reached the point in time in this country where our attitudes and understanding should be sophisticated enough to allow us to tear away the myth that has clouded this entire issue for generations and has served erroneously as the principle for the enactment of public policy.

4. We not only support, but, indeed, we demand not only the preservation of sound *public schools*, but the development of methods whereby assistance to nonpublic schools *will not diminish any assistance to public schools, but rather will reinforce it.* We cannot accept arguments that assistance to the education of children in the nonpublic schools will necessarily harm public schools. Rather, in this time of tremendous financial crisis in public education, we see viable nonpublic schools as a remedy for the increasing costs of public schools.

5. A program of financial assistance to elementary and secondary nonpublic school children should be instituted when the nonpublic schools they attend meet the legal requirements of instruction and services. Such assistance can constitutionally be rendered toward those elements of a child's education which are contributive to the common good. We recognize the legitimate right and responsibility of the government to insure that such assistance be rendered only where specified standards or quality education are met.

6. We would urge the establishment of a permanent Commission or Office for Nonpublic Education wherein the right to nonpublic education in relation to the government and the rights of the government in relation to nonpublic education would be overseen and enforced. Such a Commission could evaluate the needs of nonpublic education and recommend programs to remedy these needs. In providing financial assistance to nonpublic education, this Commission could supervise the expenditure, practice, and policy thereof. Such a Commission would not replace the authority of any presently constituted Federal or State office but rather would supplement them. Its responsibilities would be limited to a determination of legitimate financial needs and the proper fulfillment of legal requirements in the expenditure of any funds. This Commission should be so structured that it would function under the authority of the Office of the Commissioner of Education.

Turning now to a discussion of the different proposals embodied in the several bills before this Subcommittee, H.R. 776 and H.R. 7216 introduced by Congressman Delaney and Congressman Pucinski, respectively, and entitled the *School Children's Assistance Act of 1969*, embody a *concept* which Citizens for Educational Freedom has traditionally endorsed as the most practical, equitable, and constitutionally valid form of assistance by the Federal government. This legislation is, as Congressman Delaney has described it, "a common sense approach to resolving one of the fundamental problems confronting our parents and students today." This measure which gives aid directly to the student and is structured on the "child benefit theory" would provide an annual direct subsidy to each child whether they attend a public school or a nonpublic school.

Precedent for this form of aid is to be found in the G.I. Bill of Rights which has given quality education to veterans of this nation for years and has allowed them to choose the school of their choice. We know of no great uproar because many chose to attend private and sectarian schools. The legal concept of the "child benefit theory" on which this legislation is based has been supported time and time again by the courts of this land and, as lately as last year, in the Supreme Court's Decision in the *Allen* case. In addition, this concept served as the basic principle underlying the Elementary and Secondary Education Act of 1965.

Although Citizens for Educational Freedom endorses the concept of a tuition grant or voucher as embodied in H.R. 776 and H.R. 7216, we would strongly urge a change in the mechanics or application of this concept. We would ask that the voucher be granted directly to parents or guardians of *all* children in both public and nonpublic school systems meeting the necessary standards and requirements. This allotment, made in the form of a check drawn on the U.S. Treasury, would then be honored for payment when endorsed by the payee to the school of the payee's choice and counter endorsed by the school, whether that school be the nonpublic or the public school. We deeply believe that the "voucher" must be given *directly* to *all* and not just the nonpublic school children, lest we become embroiled in more legal and constitutional questions. We feel this procedure to be better than that contained in H.R. 7216.

With this fundamental change in the application and use of the tuition grant, Citizens for Educational Freedom would strongly endorse H.R. 776 and H.R. 7216, the *School Children's Act of 1969*, because it appears to us to be the best solution devised to solve the fundamental problems involved; because it supports and protects the parental, natural, civil, and constitutional right to choose the education of one's offspring; because it recognizes and supports the different systems of education; and, in addition, it appears to be more equitable and less expensive than any other formula devised. In essence, this measure provides equal educational opportunity for every American child regardless of race, color, or religious belief. Lest anyone fear this approach would continue segregation, which we deny, we would endorse the addition of the applicable Civil Rights Titles.

We support H.R. 8966 with its intent to determine national educational policy, as well as initiating the comprehensive study of how to implement such policy. We would hope that one of the results of such a Commission as this legislation proposes would be the establishment of an Office or Commission for Nonpublic Education as discussed previously.

H.R. 10833 and H.R. 11546, the *General Education Assistance Act* and the *Nationwide Educational Excellence Act*, are unacceptable to Citizens for Educational Freedom. Both measures seemingly include private school children for purposes of determining the number of school children within a State, which number is then used to determine that State's allotment of funds. The measures do not, in turn, equally, equitably and freely include private school children in the receipt of this aid. These two measures are based on the time-worn approach of grants to the State educational agency which agency in turn aids the local educational agency. Private school children are limited to what amounts to shared-time involvement and participation and any assistance that might be forthcoming under this approach has historically been proven to be only at the whim of the particular State. These proposals simply do not recognize the right, natural, civil and constitutional, of the children in the private school sector and, not recognizing these rights, they do not aid or enforce them.

These proposals point up the fact that it might be well to give some discussion to the concepts of categorical grants, block grants, revenue sharing, and some of the problems involved therein. Under the categorical grant approach the Federal government generally directs money to the State either on a matching or nonmatching basis, and the program for which these funds are intended is generally well defined and regulated. Under the theory of block grants, the Federal government simply gives to the States a sum or "bloc" of money. This approach can be either open-ended, that is, the Federal government gives the money to the States with no earmarking or regulation over the use of the funds so that the State has complete freedom in the use of these funds, or the Federal government provides the money to the States with the provision that it be used for a specific purpose. In both of these situations, the State is generally free as to the policies of distribution of these funds. The concept known as revenue sharing is, quite simply, a means by which the Federal government gives back to the States a proportionate share of revenues collected from the States. Again, the Federal government can either make this money available on an open-ended basis or on a restricted or earmarked basis.

The underlying fault with all three approaches is simply that they provide no assurance that a proportionate share of these funds will be available for utilization by private schools and private school children. A categorical grant is usually turned over to the State educational agency under general guidelines. In most cases these guidelines are not sufficient of themselves to insure the equal involvement of the nonpublic sector, and in many instances the State constitution might stand as a barrier. Hence the nonpublic sector is denied its right of equality. Under the program of bloc grants, if it is a general bloc grant, with an open-ended purpose, the States may not even use the money for education because there would be no requirement that they do so. Then too, is the money to be viewed as Federal money or as State money? Under restrictive block grants where the funds would be restricted for use by the State for a particular purpose, in this case education, there arises the same problem of whether these funds are to be viewed as Federal funds or State funds. If they are State funds, does the State constitution stand in the way of the use of these funds by nonpublic school children, and if they are Federal funds, is there sufficient protection for nonpublic school children so that the State in setting up its program will include them? Again, there is no guarantee of equality by the nonpublic sector. Most of these problems arise under the approach known as revenue sharing—will the money be given on an open-ended basis or on a specified-end basis? Will the money be viewed as Federal money or State money? Will the State constitution be a barrier and will the States of their own initiative provide for the inclusion of private school children, and, if not, will the Federal government provide the sanction and safeguards to see that they do?

What is needed in these concepts discussed above is recognition by the Federal government of the rights of the nonpublic school sector and the subsequent guarantee of these rights. In any type of program which the Federal government chooses to undertake, sufficient provisions for the equal and equitable inclusion of nonpublic school children, as well as sufficient safeguards to guarantee that inclusion, are paramount. This is a right guaranteed by the Constitution; hence it is a right which must be guaranteed by the Federal government and not denied or interfered with by it. The most important means so far utilized by the Federal government in this area has been that which has come to be known as the "bypass." Under this approach the Federal government stipulates that if the State cannot or will not make provision for the equal inclusion of certain groups in the benefits of a federally-funded program, the Federal government can, must, and will bypass the State agency in question and directly administer the program. We feel that this means has been successful in such areas as the ESEA and certain welfare measures. We wish to strongly underscore the vital necessity of such a provision as this in programs of Federal assistance to the States for education. This in reality is all we ask: namely, the recognition of the rights of nonpublic school children and the guarantee of a viable exercise of that recognition by properly defined Federally-assisted programs.

Thank you, gentlemen, for this privilege of testifying this morning. It shall always be remembered as a great honor. Thank you also, gentlemen, and in particular Congressman Pucinski, for holding hearings on these issues so vital to the future of our democracy.

STATEMENT OF HERBERT VAN DENEND, NATIONAL PRESIDENT, CITIZENS FOR EDUCATIONAL FREEDOM, HAWTHORNE, N.J.

December 4, 1969

My day-to-day occupation is Vice President in Charge of Marketing for Infra-Red Systems, Inc. For the last fifteen years, my avocation has been furthering the interests of the nonpublic school education. During these years I have served in various capacities for the Eastern Christian School Association; initially, several years on its Finance Committee, followed by two years as Chairman of the Finance Committee, as well as a member of the Board of Directors. The last three years I served as President of the Board of Directors.

This unique school system is entirely parent-controlled, religiously oriented, on a basis of Calvinistic doctrine. Since there are six schools operating with principals, but without an overall superintendent, the Board President finds himself very much involved in the operation of and policy development for the schools. This position has served as an admirable training ground for the understanding of the financial needs of the nonpublic school, as well as an in-depth understanding of the underlying philosophy of religiously orientated schools. I also serve on the board of several foundations which are related to education: the Calvin Foundation, a foundation that supplies special grants to professors and others seeking to advance their knowledge in the area of Calvinism and a foundation that gives tuition grants to ghetto area children so that they may attend the Eastern Christian School Association's schools.

Simultaneously, while serving in these capacities, I have also held offices in various capacities in Citizens for Educational Freedom and am currently serving as its National President. Citizens for Educational Freedom is an organization that was formed in 1959 during the time of the proposed Federal aid to education in the form of the Murray-Metcalf bill. This proposal was designed to give massive aid to public school children only. A small group in St. Louis, Missouri, thought this distinctly unfair and formed Citizens for Educational Freedom, an organization seeking to give freedom of choice to parents in selecting their school without loss of the educational tax dollar benefit. CEF, as it has become known nationally, has grown to over 100,000 dues-paying members and it speaks for millions who now support nonpublic schools.

As I have stated above, the experience in serving as President of the Eastern Christian School Association, has given me an insight into the financial problems of the religiously orientated school, as well as an insight into a value system for such a school. It is the latter area, I wish to discuss with you today.

During the years that CEF has worked on furthering the interest of the nonpublic school, it is becoming increasingly apparent to us that the following premise is valid: "Education Cannot Exist Without an Underlying Philosophy." Even when a determined attempt is made to remove all relation to a philosophy, one does creep in and it becomes the basis of the educational system. In other words, education and a philosophy of life are inseparable. This conclusion has also been reached by public school educators. I quote from an NEA pamphlet reprinted with permission by the Religious Instruction Association of Fort Wayne, Indiana. "The development of moral and spiritual values is basic to all other educational objectives. Education uninspired by moral and spiritual values is directionless. Values unapplied in human behavior are empty." The agreement evidenced by this statement between public and nonpublic educators exposes the dilemma. If indeed education cannot be separated from an underlying philosophy, whose philosophy shall we choose as a basis? If, for instance, the underlying philosophy is a Christian philosophy, respecting a Creator God, and having Christian moral standards, then the decision-making at the Board level, selection of curriculum, and classroom teaching will all relate to this basic philosophy. If, in contrast, a humanistic philosophy with an evolutionary basis is selected, then again curriculum selection, board decision, and classroom conduct and teaching will be affected by this choice.

Still, some maintain that education can be neutral with respect to a basic philosophy. CEF believes it cannot be. But, for the moment, let us concede the point that it could be made neutral. Proponents of nonpublic education see neutral education as negative, as one that has a foreign philosophy. Religiously-oriented schools have positive philosophies—philosophies that attempt to give the child high ideals of morality, respect for their Creator, and a viewpoint that the tenets of their faith are applicable to each and every situation of life. In view of these high, positive ideals of the parents, it follows that they, as a matter of conscience, would reject "neutral" education that does not have a basis for its goals in the area of personal morality and values.

In our country we have made numerous attempts to make sure public education has a "neutral" philosophy. This has led to some rather weird distortions. For instance, in some of the statements of objectives for public schools that I have read, there is an expressed desire to train the "whole" child. Yet, by law, one must leave out the spiritual dimension which is an essential part of the whole child. I would like to read the statement of objectives of one of the school districts in New Jersey.

> In our school our primary objective is to help each student acquire knowledge and skill, develop habits, attitudes, personal morals and values and resources which will enable him to lead a satisfying and useful personal life and become a creative member of society.

How personal morality and values can be taught without a basic philosophy is difficult to understand. One might suggest that a boy or girl be honest, but when the legitimate question "why?" is raised by the student, the neutral-based education cannot answer. It will, on attempting to answer such a question, be forced to favor one philosophy over another. In other words, an attempt to teach personal morality without any real basis for it, is a distortion.

Two bills under consideration by the General Subcommittee on Education are H.R. 10833 and H.R. 11546. They tend toward the shared-time concept of general aid to nonpublic schools. CEF contends that shared time is not a real solution for the nonpublic school supporter. In order to make shared time a possibility, one must accept the premise that subjects can be separated into secular and spiritual and the sharing of time, in the so-called secular subjects, would be a solution to the problem. For instance, some have said mathematics is mathematics, whether it is taught in a public, private, or religiously orientated school. Obviously, the teaching of the facts of mathematics in any school is relatively the same. However, most proponents of nonpublic education will be concerned with what the mathematics teacher is teaching when he is teaching the subject matter, and will be equally concerned about how the mathematics teacher relates to or influences the children when he or she is not teaching the subject matter.

Again, referring to the same pamphlet previously quoted, published by the NEA, we see that public educators share the same concerns.

> Again, some teachers may become so completely engrossed in the task of teaching French verbs, or the proof of the binomial theorem, or the repair of internal combustion engines, that the moral and spiritual implications of their work escape adequate attention. Having a natural and proper respect for their particular subject matter, they may devote all their strength to the task of covering the material set forth in the course of study. Success in mastering the various subjects of study need not conflict with the development of moral and spiritual values. Nevertheless, if any conflict does arise between these two purposes, there must be no question whatever as to the willingness of the school to subordinate all other considerations to those which concern moral and spiritual standards.

In the area of geography and science, the philosophical basic differences between the schools become more apparent. In these subjects, if the created-universe-versus-the-evolved-universe question arises, the answer will be taught consistent with the school's basic philosophy. In history, the kind of moral judgments brought to bear on the events of history will reflect the school's philosophy. For example, the Lincoln-Douglas debates may be cited, where Douglas took the expedient route allowing the States to decide, while Lincoln took the moral route that slavery was indeed wrong. The impact of the teacher's own attitude in these areas is very important to those who would be more concerned about the moral implications than the expedient possibilities.

Sex education is one of the major areas that currently underscores the different value systems that people hold. Controversy over this issue rages in most communities in our country. Controversy does not rage over whether sex education is necessary, but rather on the moral issues that are involved in teaching it. To be completely neutral, public education would have to be content with dealing only with the biological aspects of sex education. Sex education, on this basis only, reduces man to the animal state, subject only to his passions and desires. The mere knowledge of sex, alone, will not create the necessary restraints for an orderly society. Sex education cannot be divorced from a value system. This controversy casts into sharp relief the different value systems and that we are indeed a pluralistic society. For example, our Christian School Association's educators put together a sex education program, explained and illustrated the program to the parents, and received a 97 percent concurrence with the presentation. Why? Simply because the people who support and send their children to this school system have a like value system and can agree on sex education and its moral basis as developed by our educators—illustrating one segment of a pluralistic society with a positive, moral code, handling a controversial moral subject.

All of the foregoing illustrates the agreement among educators from both public and nonpublic school education that education cannot be separated from moral and spiritual values, whether it be in mathematics, geography, social studies, or any other class. But the basic issue has not been faced squarely. That is, whose philosophy shall become the basis of education? The attempt to create a philosophy acceptable to all, without violating anyone's spiritual sensitivities, negates the possibility of properly developing moral and spiritual values. It is impossible to create a positive, dynamic, philosophical base for education that does not violate the conscience of one or more segments of our pluralistic society. The only rational course remaining is to support equally all segments of our pluralistic society.

In summary, if we agree with our educators that education cannot exist without an underlying philosophy, and if we accept the fact that we are a pluralistic society with respect to underlying philosophies, then we can only reach the conclusion that all educational systems must be considered equally eligible for support.

CEF submits that of the bills the Subcommittee is considering, H.R. 776 and H.R. 7216 best meet the needs of our country. This bill gives freedom of choice to the parent to select the school consistent with the dictates of his conscience. It recognizes the prior rights of the parents in the education of their children and it serves not only the first part, but the second part of the First Amendment, that Congress shall not make any law that prohibits the free exercise of religion.

We are asking that any bill the Subcommittee considers for passage of Federal assistance to school children include all school children and respect their parents' right to choose the underlying philosophy of their school.

STATEMENT OF REV. C. STANLEY LOWELL, ASSOCIATE DIRECTOR, AMERICANS UNITED FOR SEPARATION OF CHURCH AND STATE, AND EDITOR, "CHURCH AND STATE," WASHINGTON, D.C.

December 9, 1969

Americans United for Separation of Church and State was founded 23 years ago by leading educators, churchmen, lawyers, and others who wanted a group which would seek to preserve and extend the traditional arrangement between church and state in this country. To this arrangement we have given the designation "the separation of church and state."

This great principle of government is enunciated in the First Amendment which states that Congress shall make no law respecting an establishment of religion or prohibiting the free exercise thereof, and is articulated even more specifically in the constitutional provisions and statutes of most of the States.

In the various bills now in your purview, we discover certain provisions which we feel are distinctly inimical to the separation of church and state. One of the basic facts of separation is a restraint on government in the matter of subsidies to the church. The best way by which government can establish religion is to finance it. The best way to avoid establishment of religion is not to finance it. We find in these bills various provisions by which government will finance institutions which exist for the dissemination and propagation of religion. This we believe to be not only contrary to the Federal constitutional provisions, but also to the many provisions in State law to which allusion has been made.

One of the key buttresses to the wall of separation between church and state lies in the matter of public control of education. A century and a half ago the people of the United States made a basic determination in favor of common schools. They decided that the fundamental basis of education in the United States would be a great public system of schools desired by the people, governed by the people, and for which the people would tax themselves. Those who euphemistically describe the public schools as "government schools" miss the entire point of our founders' concern. What they sought to establish was *people's schools*, belonging to the people themselves and educating all children in institutions where they would learn to read, live, play, and think together. It was the schools which were to be the great "melting pot" for our variegated citizenry and, indeed, the schools have notably served in this capacity for a long time.

Church schools and other private schools were never forbidden or outlawed in this country. This is a free country and all groups are entitled to this exercise of freedom. Nevertheless, it was the decision of our citizens to make education in this country primarily a public function which the people themselves would direct and pay for through their duly constituted authorities. It is precisely this arrangement which we believe the various programs of Federal aid to education are placing in jeopardy and which will be increasingly undermined and eroded by provisions in the legislation before you. The record to this point is, we believe, clear. The Elementary and Secondary Education Act of 1965, as frequently renewed and funded, has been administered in such a way as to channel Federal funds directly into church schools. It is true that in the legislative history and in the regulations some effort was made to preclude this, but in actual fact the results are otherwise. While there is no mention of churches or church schools in the original legislation, or in any of the bills before you today, it is the church schools that have been receiving practically all the funds for what are called "special educational services and arrangements." Now the bills before you would have the effect of making permanent and substantially enlarging such aid. The question needs to be raised as to whether the country, for its own good, should move in this direction.

Ninety percent of the "private schools" referred to in the legislation are sectarian schools, and of these, 93 percent belong to one religious denomination. How can aid to these schools in the substantial terms contemplated here be anything but a subsidy to the church?

We question whether the churches actually need aid of this kind for their institutions. Churches are no longer feeble shacks at the crossroads. They are vast aggregates of wealth and power, representing, according to a recent study, tax-exempt, religiously-used real estate assessed at $102 billion, and total wealth and income of $164 billion.

Let us look more closely at the schools which it is proposed to include in the public subsidy. These are segregated schools. They are segregated on the basis of religion, being open only to members of one particular church, and being used by that church for compulsory religious services, for sectarian indoctrination, and for recruitment of religious personnel. Furthermore, these schools are racially segregated. Our organization is prepared to supply confirmative information to members of the committee on this point. The facts are that the church schools tend, generally, to be lily-white schools with the proportion of Negroes far beneath that of the public schools.

Furthermore, these schools are in other ways "selective schools." Their directors pick and choose from the school population in such a manner as to eliminate all problem cases of every kind. The proposals before you here would place the subsidies of government at the disposal of these institutions. We question whether this is sound public policy. If, as the Supreme Court has repeatedly ruled, the funds of the public cannot be used to support schools formed and maintained for the purpose of racial segregation. how can they be used for institutions where racial segregation has added to it other forms of segregation? This is a question of social policy; it is a question of national direction. Here we have a proposal to turn our back on the educational and church-state arrangements of the past century and a half to embark upon a course new to us, but old to Europe, and fraught with an endless potential of church-state controversy and inter-creedal strife.

There can be no doubt that this arrangement for Federal aid to church schools discriminates against the churches which do not utilize such institutions. With public subsidy assuring the perpetuity and expansion of church schools, whose members are no longer willing to support them with their voluntary gifts, this certainly places the clergy of the sponsoring churches at a great advantage over others. This is a situation which nonparochial school churches cannot be expected to tolerate for long. They will without doubt, as indeed they are already doing, erect their own denominational schools and draw Federal and State and Local support for their maintenance. This will further stimulate the shift from education as a basically public function of the people to a private function directed by the clergy. We question whether it is constitutional or wise social policy, either, for government to move in this direction.

The question of constitutionality of legislation which provides direct benefits to schools owned and operated by churches is one that should properly concern the members of this committee. It will be recalled that in its majority opinion in *Everson* v. *Board of Education*, 330 U.S. 1 (1947) Justice Black declared:

> The "establishment of religion" clause of the First Amendment means at least this: Neither a State nor the Federal Government can set up a church. Neither can pass laws which aid one religion, aid all religions, or prefer one religion over another. Neither can force nor influence a person to go to or remain away from church against his will or force him to profess a belief or disbelief in any religion. . . . No tax in any amount, large or small, can be levied to support any religious activities or institutions, whatever they may be called or whatever form they may adopt to teach or practice religion.

This very language has been reiterated by the majority in practically every church-state issue to come before the Court since that time. (Cf *McCollum* v. *Board of Education*, 333 U.S. 203 (1948); *Zorach* v. *Clauson*, 343 U.S. 306 (1952); *Torcaso* v. *Watkins*, 367 U.S. 488 (1961).

In point of fact, the Court has been unable to distinguish between a church and its schools. So Justice Jackson in his dissent in *Everson* declared:

> I should be surprised if any Catholic would deny that the parochial school is a vital, if not the most vital, part of the Roman Catholic Church. If put to the choice that venerable institution, I should expect, would forego its whole service for mature persons before it would give up education of the young; and it would be a wise choice. Its growth and cohesion, discipline and loyalty spring from its schools. Catholic education is the rock on which the whole structure rests, and to render tax aid to its Church School is indistinguishable to me from rendering the same aid to the Church itself.

The integral relationship of the school to the church is well described in a recent issue of the local archdiocesan publication, *The Catholic Standard*. I quote:

> As parts of a living organism are in no way isolated entities, so Catholic schools, the confraternity of Christian Doctrine, Family Life and Adult Education, for example, are integral aspects of the total archdiocesan apostolate. Each department is an entity in itself, but it exists in an essential and living relationship to other archdiocesan agencies. (*Catholic Standard*, Sept. 4, 1969)

Can we doubt, therefore, that Federal subsidy to a church school is public subsidy to a church? And can we doubt that the tax imposed for this purpose is a tax for religion?

It is true that church administrators in their eagerness for public funds are seeking to "purge" the church schools of their religious emphasis. In a recent lawsuit in Columbus, Ohio, *Americans United* v. *Essex*, counsel defending the reception of State funds in church schools there did so on the basis that the schools had little or no religion in them anyway. This does illustrate what we believe to be wrong with this approach of Federal aid to church schools. The spectrum of public values and concerns which enters the school with public assistance tends inevitably to dilute the religious emphasis. Certainly we have seen this in the case of higher education, and now apparently the same thing is about to happen in elementary education. Theoretically, the church schools could give up all their religion in order to get public support. But then, why have church schools without religion?

This whole approach to government aid to church schools is wrong in our judgment and needs to be changed. Churches and their schools should be voluntarily supported, not by Federal appropriations.

The question of constitutionality of Federal grants to church schools has yet to be adjudicated by the Supreme Court. Fortunately, in *Flast* v. *Cohen* the High Court has now permitted this issue to be heard. A number of cases are now making their way to the courts and by another year we should have important answers. We would suggest that all legislation aiding church schools with Federal funds be held in abeyance until such a determination has been made.

STATEMENT OF PAUL GOODMAN, AUTHOR, NEW YORK, N.Y.

December 16, 1969

From bottom to top, the schools are over-expanded. (In 1900, 6 percent graduated from high school, 0.25 precent went to college.) Federal money should be given to the growing up of the young in society, but it has been a mistake to channel so much of it into schools and under school administration.

It is not true that, for most, years of schooling give more job competence or a better job attitude in modern technological society. In most occupations there is no correlation between competence and having a high school diploma or being a dropout. There is no correlation between college performance and professional competence as judged by peers.

At present, credentials for employment are arbitrarily hiked for the same work. More and more phoney "professions" require diplomas. "Job training," also, has been stupidly run as if a school; where there are in fact jobs, simple apprenticeship has usually worked adequately.

The pointlessness of the years of schooling is a chief cause of youth dissent and truancy, at increasingly earlier ages. Naturally, having known no other dispensation, the students do not know what to ask for. The real need is to change the licensing and hiring practices and to open access into present jobs and professions, to create new kinds of apprenticeships and worthwhile productive activities.

The present emphasis on school-going and school credentials effectually excludes poor black, Spanish-American, and white youth who have not had the background and style for adequate school performance, but who would be competent on the job. The attempt to upgrade them academically is unnecessary, wasteful, and cruel, and invites delinquency. In this respect, black militant demands for "quality education" are as deluded as, and more disastrous than, white, middle-class pressuring of their own children.

The present allotment of money for growing up is undemocratic. Schools are fantastically expensive and gobble up the money that should be equally spread. The waste on schooling with no tangible product but blue books is an important cause of inflation.

Most of the high schools should be abolished. We must then provide a range of useful activities protected from exploitation. Re-entry into the academic line should be facilitated. The normal procedure would be to take academic work *after* entry into jobs and professions, when one knows what one is after and is motivated.

Freed from the system of mandarin graded diplomas, the problems of primary education, up to age 13, can be coped with in their own terms. For instance, the lack of self-confidence and the cultural deprivation of underprivileged children can be coped with directly, rather than by passing tests. In general, the cultural and socializing pressures of urban and suburban environments are too great for all children; they hinder natural initiative and curiosity, and kill natural motivation. (Anyway, the first eight years' "curriculum" can be learned by normal children in six months at age 13.)

If children were not "motivated" by goals 16 years in the future, more adolescents would know what they want to do and what their talents are. We waste, divert, and pollute human resources just as we do other natural resources.

The vast and centralized plants of present primary schooling are intimidating and counter-productive. Tiny "mini-schools," no bigger than the little red schoolhouse, are best. Experiments with them have shown they are feasible and economical in urban conditions; and they provide the best kind of community involvement.

A chief obstacle[1] to children's learning to read is the present school setting in which they have to pick it up. For any learning to be skillful and lasting, it must be or become self-motivated, second-nature; for this, the schooling is too impersonal, standardized, and academic. If we tried to teach children to speak, by academic methods in a school-like environment, many would fail and most would stammer.

Although the analogy between learning to speak and learning to read is not exact, it is instructive to pursue it, since speaking is much harder. Learning to speak is a stupendous intellectual achievement. It involves learning to use signs, acquiring a vocabulary, and also mastering an extraordinary kind of algebra—syntax—with almost infinite variables in a large number of sentence forms. We do not know scientifically how infants learn to speak, but almost all succeed equally well, no matter what their class or culture. Every child picks up a dialect, whether "correct" or "incorrect," that is adequate to express the thoughts and needs of his milieu.

We can describe some of the indispensable conditions for learning to speak.

1. The child is constantly exposed to speech related to interesting behavior in which he often shares. ("Now where's your coat? Now we're going to the supermarket.")
2. The speakers are persons important to the child, who often single him out to speak to him or about him.
3. The child plays with the sounds, freely imitates what he hears, and tries to approximate it without interference or correction. He is rewarded by attention and other useful results when he succeeds.
4. Later, the child consolidates by his own act what he has learned. From age 3 to 5 he acquires style, accent, and fluency by speaking with his peers, adopting their uniform but also asserting his own tone, rhythm, and mannerisms. He speaks peer speech but is uniquely recognizable as speaking in his own way.

Suppose, by contrast, that we tried to teach speaking academically in a school-like setting:

1. Speaking would be a curricular subject abstracted from the web of activity and reserved for special hours punctuated by bells.
2. It would be a tool subject rather than a way of being in the world.
3. It would not spring from his needs in immediate situations but would be taught according to the teacher's idea of his future advantage, importantly aiming at his getting a job sixteen years later.
4. Therefore the child would have to be "motivated," the exercises would have to be "fun," etc.

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[1] Reprinted from "Goodman on Learning To Read: A Prescription for Mini-Schools," *Chelsea Clinton News* (November 23, 1967). Testimony of Paul Goodman at hearings of Borough President of Manhattan, November 1967.

5. The lessons would be arranged in a graded series from simple to complex, for instance on a false theory that monosyllables precede polysyllables or words precede sentences, or sentences precede words.

6. The teacher's relation to the infant would be further depersonalized by the need to speak or listen to only what fits two dozen other children as well.

7. Being continually called on, corrected, tested, and evaluated to meet a standard in a group, some children would become stutterers; others would devise a phony system of apparently speaking in order to get by, although the speech meant nothing; others would balk at being processed and would purposely become "stupid."

8. Since there is a predetermined range of what can be spoken and how it must be spoken, everybody's speech would be pedantic and standard, without truth to the child's own experience or feeling.

Turn now to teaching reading. These eight disastrous defects are not an unfair caricature of what we do. Reading is treated as abstract, irrelevant to actual needs, instrumental, extrinsically motivated, impersonal, pedantic, not expressive of truth or art. The teaching often produces awkwardness, faking, or balking. Let me also make four further points specific to learning reading:

1. Most people who have learned to read and write fluently have done so on their own, with their own material, whether library books, newspapers, comic books, or street signs. They may have picked up the ABC's in school, but they acquired skill, preserved what they had learned, on their own. This self-learning is an important point, since it is not at the mechanical level of the ABC's that reading retardation drastically occurs, but in the subsequent years when the good readers are going it alone.

2. According to some neurophysiologists, given the exposure to written code in modern urban and suburban conditions, any emotionally normal child in middle class surroundings will spontaneously learn to read by age 9, just as he learned to speak by age 3. It is impossible for him not to pick up the code unless he is systematically interrupted and discouraged, for instance by trying to teach him.

Of course for our purposes in this hearing, we must assume that children in the culture of poverty do not have the ordinary middle class need for literacy, and the premium put on it, and they are less exposed to it in important relations with their parents and peers. Thus there is an essential use for the right kind of schooling.

3. Historically, in all modern countries, school methods of lessons, copying, and textbooks have been used, apparently successfully, to teach children to read. But this evidence is deceptive. A high level and continuing competence were required of very few—e.g. in 1900 in the United States only 6 percent graduated from high school. Little effort was made with children of the working class, and none at all with those in the culture of poverty. It is inherently unlikely that the same institutional procedures could apply with such a change of scale and population. Where a dramatic effort has been made to teach adults to read, as in Cuba, the method has been "each one teach one," informally.

4. Also, with the present expansion of higher education, teachers of freshman English uniformly complain that the majority of middle class students cannot really read and write, though they have put on a performance that got them through high school. As John Holt has

carefully described, their real life need was not reading or writing but getting by. (This is analogous to the large group among Puerto Rican children in New York who apparently speak English well, but who in fact cannot say anything that they need or mean, that is not really simply parroted.)

I trust that the aim of the hearings is how to learn reading as truth and art and not just to fake and get by. Further, since poor children do not have the continual incentives and subtle pressures of middle class life, it is much harder for them to learn even just to fake and get by. And even if they do get by, it will not pay off for them in the end, since they do not have money and connections. To make good, they must really be competent.

The question is, is it possible and feasible to teach reading somewhat in the way children learn to speak, by intrinsic interest, with personal attention, and relating to the whole environment of activity? Pedagogically it is possible and feasible. There are known methods and available teachers, and I will suggest an appropriate school setting. Economically it is feasible, since methods, staff, and setting do not cost more than the $850 per child that we now spend in the public schools. (This was demonstrated during two years by the First Street School on the Lower East Side, and, it is in line with the budget of Erik Mann's new school for Negro children in Newark which uses similar principles.) Politically, however, my present proposal is impossible and unfeasible, since it threatens both vested interests and popular prejudices, as will be evident.

For ages 6 to 11, I propose a system of tiny schools, radically decentralized. As one who for 20 years has urged democratic decentralization, I am of course interested in the Bundy report, but here I am thinking of decentralization to the level of actual operation. By tiny school I mean 28 children with four teachers (one grown-up to seven children), and each tiny school to be largely administered by its own staff and parents, with considerable say also for the children, as in Summerhill. The 4 teachers are:

1. A teacher regularly licensed and salaried. Since the present average class size is 28, these are available.
2. A graduate from the senior class of a New York college, perhaps just embarking on graduate study. Salary $2000. There is no lack of candidates to do something interesting and useful in a free setting.
3. A literate housewife and mother, who can also prepare lunch. Salary $4000. No lack of candidates.
4. A literate, willing, and intelligent high-school graduate. Salary $2000. No lack of candidates.

Such a staff can easily be racially and ethnically mixed. And it is also the case, as demonstrated by the First Street School, that in such a small setting, with individual attention paid to the children, it is easy to get racially and ethnically mixed classes; there is less middle-class withdrawal when the parents do not fear that their children will be swamped and retarded. (We have failed to achieve "integration" by trying to impose it from above, but it can be achieved from below, in schools entirely locally controlled, if we can show parents that it is for their children's best future.)

For setting, the tiny school would occupy two, three, or four rooms in existing school buildings, church basements, settlement houses otherwise empty during school hours, rooms set aside in housing projects, storefronts. The setting is especially indifferent since a major part of activity occurs outside the school place. The setting should be able to be transformed into a clubhouse, decorated and equipped according to the group's own decision. There might be one school on every street, but it is also advisable to locate many in racial and ethnic border areas, to increase intermixture. For purposes of assembly, health services, and some games, ten tiny schools could use the present public school facilities.

The cost saving in such a set-up is the almost total elimination of top-down administration and the kind of special services that are required precisely because of excessive size and rigidity. The chief uses of central administration would be licensing, funding, choosing sites, and some inspection. There would be no principals and assistants, secretaries and assistants. Curriculum, texts, equipment would be determined as needed—and despite the present putative economies of scale, they would be cheaper; much less would be pointless or wasted. Record keeping would be at a minimum. There is no need for truant officers when the teacher-and-seven can call at the absentee's home and inquire. There is little need for remedial personnel since the staff and parents are always in contact, and the whole enterprise can be regarded as remedial. Organizational studies of large top-down directed enterprises show that the total cost is invariably at least 300% above the cost of the immediate function, in this case the interaction of teachers and children. I would put this 300% into increasing the number of adults and diversifying the possibilities of instruction. Further, in the condition of New York real estate, there is great advantage in ceasing to build $4 million school buildings, and rather fitting tiny schools into available niches.

Pedagogically, this model is appropriate for natural learning of reading:

1. It allows exposure to the activities of the city. A teacher-and-seven can spend half the time on the streets, visiting a business office, in a playground, at a museum, watching television, chatting with the corner druggist, riding the buses and subways, visiting rich and poor neighborhoods and, if possible, homes. All these experiences can be saturated with speaking, reading, and writing. For instance, a group might choose to spend several weeks at the Museum of Natural History, and the problem would be to re-label the exhibits for their own level of comprehension.

2. It allows flexibility to approach each child according to his own style and interests, for instance in choice of reading matter. Given so many contexts, the teacher can easily strike when the iron is hot, whether reading the destination of a bus or the label on a can of soup. When some children catch on quickly and forge ahead on their own, the teacher need not waste their time and can concentrate on those who are more confused. The setting does not prejudge as to formal or informal techniques, phonics, Montessori, rote drill, Moore's typewriter, labelling the furniture, Kohl's creative writing, or any other method.

3. For instance, as a writer I like Sylvia Ashton-Warner's way of teaching little Maoris. Each day she tries to catch the most passionate concern of each child and to give him a card with that key word: usually these are words of fear, anger, hunger, loneliness, or sexual desire. Soon a child has a large ineradicable but very peculiar reading

list, not at all like Dick and Jane. He then easily progresses to read and write anything. From the beginning, in this method, reading and writing are gut-meaningful they convey truth and feeling. This method could be used in our tiny school.

4. The ragged administration by children, staff, and parents is pedagogically a virtue, since this, too, which is real, can be saturated with reading and writing, writing down the arguments, the rules, the penalties. Socially and politically, of course, it has the advantage of engaging the parents and giving them power.

I am assuming that for the first five school years, there is no merit in the standard curriculum. For a small child everything in the environment is educative, if he attends to it with guidance. Normal children can learn the first eight years' curriculum in four months anyway, at age 12.

Further, I see little merit, for teaching this age, in the usual teacher training. Any literate and well-intentioned grown-up or late teen-ager knows enough to teach a small child a lot. Teaching small children is a difficult art, but we do not know how to train the improvisational genius it requires, and the untrained seem to have it equally: compare one mother with another, or one big sister or brother with another. Since at this age one teaches the child, not the subject, the relevant art is psychotherapy, and the most useful course for a normal school is probably group therapy. The chief criterion for selection is the one I have mentioned: liking to be attentive to children. Given this setting, many young people would be introduced to teaching and would continue with it as a profession, whereas in the New York system the annual turnover approaches 20 percent, after years of wasted training.

As I have said, however, there are fatal political and administrative objections to this proposal. First, the public school administration does not intend to go largely out of business. Given its mentality, it must see any radical decentralization as impossible to administer and dangerous, for everything cannot be controlled. Some child is bound to break a leg and the insurance companies will not cover; some teenager is bound to be indiscreet and the Daily News will explode in headlines.

The United Federation of Teachers will find the proposal to be anathema because it devalues professional perquisites and floods the schools with the unlicensed. Being mainly broken to the public school harness, most experienced teachers consider free and inventive teaching to be impossible.

Most fatally, poor parents, who aspire for their children, tend to regard unrigidly structured education as down-grading, not taking the children seriously, and also as vaguely immoral. In the present Black Power temper of Harlem, also, the possible easy intermixing is itself not desired. (Incidentally, I am rather sympathetic to black separatism as a means of consolidating the power of black communities. But children, as Kant said, must be educated for the future better society which cannot be separated.)

In spite of these fatal objections, I recommend that instead of building the next new school building, we try out this scheme with 1200 children.

STATEMENT OF PETER SCHRAG, EDITOR, CHANGE MAGAZINE, AND EDITOR-AT-LARGE, SATURDAY REVIEW, NEW YORK, N.Y.

December 16, 1969

A number of proposals have been made in recent years that public funds for education be made available directly to children or their parents; such funds then could be spent in any of a variety of educational institutions or other educational situations. The proposals vary in detail but they are, in substance, directed toward the same end: giving the individual economic power to make choices about his or her education, and thus to provide alternatives to the policies and practices of a single public school system. I would like to support consideration of such proposals and to encourage, at the earliest possible moment, a program of experiments to determine their feasibility.

It is now patently clear that public schools in this country fail a substantial number of children each year; it is commonly believed that the failures are concentrated primarily among those that we used to call the "disadvantaged" (which may simply be another phrase for children that the schools do not understand) but it is also apparent, both in the cities and the suburbs, that many of the "advantaged"—and those who are in the middle—are bored, resentful, and increasingly hostile toward *their* schools and the people who run them. In a number of places, ghetto parents and students *as well as* middle-class parents and students have been seeking alternative educational opportunities, often using their own very limited funds, because they do not feel that the public schools are providing the kind of teaching or the atmosphere that the parents or the students find hospitable. The affluent have always been able to send their children to private schools, and they do, especially in the large cities. The poor and most of those in the middle class cannot afford such a luxury. If you are wealthy, in other words, you can buy your way out of bad and frequently repressive institutions. If you are not, then you are subject to whatever public education the bureaucracy offers. This is not to say that all public schools are bad, or that all (or perhaps even most) private schools are good, whatever that may mean. It is only to say that some people now have choices, and some do not.

Historically, Americans have been committed to the idea of common schools, schools which, in theory, served children from all backgrounds, nationalities, and so on. But if the common schools ever "worked" in the past—to Americanize immigrants or to provide opportunities for the children of the poor (and there is now some doubt that they did)—it is clear that their contemporary record is spotty at best. The fact is that, all rhetoric to the contrary, Americans have in practice repudiated the idea of the common school. They have, in moving to the suburbs, and in resisting busing and other forms of integration, sought situations and localities where their children could go to school with other children of the same background, and they have persuaded themselves that any large influx of minority group children will inevitably lower standards. The failure of *de facto* integration is also the failure of the common school.

Despite all this, the schools still operate as if there were some sort of pedagogical wisdom applicable to every child. Our schools are operated by what is essentially one standard: thus we talk about bright, average, and slow students, or about fast and slow learners, and while we pay lip service to things like "individualized instruction" (and occasionally practice it) we make distinctions in the classroom only according to that one single standard. Most of our remedial efforts are primarily attempts to devote more time and energy to things that have already failed. At the same time, there is considerable evidence that different children can learn not only at different rates but in different ways (and often in very unexpected ways), and that different backgrounds and interests may demand very different programs and personalities for any sort of educational success. What I am saying is that we simply do not know enough about how children learn—and even less about teaching—to be prescriptive for all cases.

Most of the attempts to provide Federal assistance to solve special problems—Title I of ESEA, for example, or Head Start—are turning out to be failures, partly because we do not really know what we want to accomplish (educational success for one person in our system is defined by the failure of another; every grade of A only has meaning if someone else gets a D) and partly because the educational bureaucrats have misused the funds, constructing new bureaucracies, buying unnecessary materials, or simply using the funds to balance the budget. ESEA, I suspect, has been a marvelous subsidy for those who grandly call themselves professionals and almost useless for those who are—in many cases—politically impotent clients. The little evidence that we have seems to indicate that additional funds for disadvantaged kids seem to make little difference, except to strengthen the bureaucrats who stand in the way of reform.

Given all this—and I am certain that the Committee can verify and augment the arguments from its own experience and from the record—I can see no harm and considerable benefit in a program that would make an increasing proportion of the Federal allocations for public education available directly to the clients. Most people, I am certain, would still elect to spend such funds in the public schools. But if individuals rather than systems controlled the money, we would immediately create pressure for accountability; we would also begin to create resources to support alternative schools and programs, including apprenticeships, some of them already in existence, others still to be created, and still others yet to be imagined: schools which emphasize the arts, or mathematics or music, schools which are rigidly disciplined and highly structured, others which are liberal and freewheeling, each of them serving those parents and children who felt most comfortable there. (It would also provide support for parochial schools which are now in very deep financial trouble, and which will, in many cases, not survive without public funds.)

Proposals of this kind are usually met with the charge that they will open the door to all sorts of shabby educational operators, pedagogical charlatans who would victimize the uneducated and the unwary. Yet clearly, the chances of that happening—especially if some sort of public report were required each year from all educational programs—would be no greater than they are now, when pedagogues enjoy life tenure and a monopoly position in the community. The provisions of Title VI against discrimination on the basis of race and religion would obviously apply to any enterprise receiving educational funds allocated to students and parents.

Equality of opportunity has clear meaning when it comes to jobs or medical care or housing—but does it have much meaning in education? (Do we establish equality by what we put in or what comes out?) Perhaps pluralism or diversity of educational opportunity makes more sense. The country is going through major cultural changes; clearly one of these changes involves the breaking down of our certainties about acceptable cultural standards or even about what culture is. The effort of a single public system to satisfy all cultural demands and all interests from black studies to sex education and band practice is obviously creating a quotient verdict that satisfies no one. The schools have to make too many compromises ever to be successful.

Let me propose this as a beginning: the scandalous misuse of Title I money and the continued inability of many of the large city schools to be responsive to the needs of the disadvantaged, white and black, demand not more administration or more accountants but a shift in the way Title I money is allocated. Resources under this program should be turned over directly to the parents of the children that the program was supposed to benefit. I suggest that the Department of Health, Education and Welfare issue vouchers which can be used in a range of enrichment programs either within the public schools or in other approved educational programs. Such a step would make it relatively certain that funds appropriated for disadvantaged children are, in fact, used for their benefit. Educational bureaucrats would, of course, oppose such a change in the provisions in the Elementary and Secondary Education Act. The Congress must therefore decide whether it wants to help the bureaucracies or the children.

STATEMENT OF JOHN HOLT, AUTHOR AND TEACHER, BOSTON, MASS.

December 17, 1969

Living and learning are not separate. Living *is* learning. When we are most alive, using most fully our energies, senses, and capacities, we are learning the most.

Learning, and hence education, are not something that someone else does to us, but something that we do to and for ourselves.

Whether children or adults, we learn best, and really learn, only those things that are interesting and exciting to us, that help us understand the world, or ourselves and other people in the world, that help us move into it, cope with it, do things in it, enjoy it, change it.

Whether children or adults, we do not learn, and rarely even can pretend to learn, out of fear, or the wish to please or appease someone, or the hope of getting some distant future reward. When someone with power over us tries to make us learn, for his purposes, not ours, what we think about it not the subject, but him, the judge—what he wants, how to give him what he wants, how to fool him into thinking we know and are doing what he wants, how to escape him or defy him when we can no longer fool him.

We learn best, as we all did when we were little, when we are most free to explore the world before us in the way that seems most interesting and useful, free to take from it and into ourselves what seems best and to reject what we cannot use, free to experiment, to try things out, to do things our own way, to make mistakes and to find them and correct them by ourselves, free to go where curiosity leads us.

We learn best from people we trust, whom we know are not using us.

We learn best, in short, when we, not someone else, are the planners, directors, and judges of our own learning; when we, not someone else, are deciding what we are going to learn, and when, and why, and how; when we, not someone else, decide how well we are learning it.

To help children live, grow, learn, we must do all we can—and there are limits to what we can do—to free them from the fear of our displeasure or punishment, or the need for our approval and rewards, from the threat of invidious comparison with others and of judgment from outside. We must do all we can to put before them the widest possible variety of choices of ways to move into the world, of things to look at, think and talk and write about, work with, and do, so that each child may work out as he goes along ways of learning that seem to him natural, sensible, satisfying, joyful, and real. We must do all we can to make school a place where children will feel and be free, curious, unafraid, energetic, active, absorbed, and in ever closer contact with the larger world outside the walls of the school.

I think children learn better when they learn what they want to learn[1] when they want to learn it, and how they want to learn it, learning for their own curiosity and not at somebody else's order. I believe that learning would be greatly improved if we could completely or at least largely abolish the fixed curriculum in its present sense. I do not believe that testing and grading form any inherent or useful function in learning; in fact, they corrupt and impede the learning process. I am altogether opposed to any kind of so-called ability grouping in school. I think that in many more cases than not it is the act of instruction itself that impedes learning and nowhere else more than in the field of reading; in short, I feel that children would learn to read better and more easily if they were not taught. I think we need to find ways to get more people into the schools who are not teachers. I do not think it is helpful to have children spend all their time with people who have no other concerns than children. I would like to see streams of people coming into the schools who are there to talk about their outside life and work in the world. I would also like to see children encouraged and helped to use the resources of the world outside the school to further their learning. I believe that compulsory school attendance no longer serves a useful function, either to schools, teachers, or students, and that it should be done away with or greatly modified. I think we have made education, which should be something that helps young people move into the world and do useful work there, into an enormous obstacle standing in their way, and I think we need to find ways to remove that obstacle. In short, I am opposed to all kinds of credential requirements as preconditions for doing work. I think we should remove every possible obstacle between any child and any gainful or useful contribution he wants to make to society. Everything we say and do tends to separate learning from living, and we should try instead to join them together.

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[1] The remainder of this statement is from Holt, *The Underachieving School,* Pitman Publishing Company, 1969.

STATEMENT OF JOHN BREMER, DIRECTOR, PARKWAY PROJECT, THE PHILADELPHIA SCHOOLS, PHILADELPHIA, PA.

December 18, 1969

I. Some Thoughts on Education

America has never had an educational system worthy of itself. After pioneering a continent, developing new forms of social and political organization, absorbing countless immigrants, and bringing technology into a close relationship with human life, it is nevertheless true that Americans have adopted principles and practices of education belonging to another age and imported from another society. The Parkway Program tries to provide a mode of education in keeping with the major traditions of American life.

From an examination of our high schools, who would ever suppose that bold and adventurous exploration was a major part of the American heritage? Who would realize that American society has given new meaning to self-reliance and individualism; that communities, founded for survival, have made internal cooperation a way of life and yet have been able to incorporate the rich and varied customs brought by those seeking new homes? Who would ever conclude that American society has been compelled to test its knowledge against the realities of the world? Why is the American high school so out of touch with American life? Why is the American high school so out of touch with life? It is because the boundaries of education are no longer correctly drawn.

Our schools imagine that students learn best in a special building separated from the larger community. This has created a refuge in which students and teachers do not need to explore but only to accept. Within this separated refuge, students are expected to learn in so-called homogeneous groups known as classes, and within these classes students are isolated, separated from each other by the seating arrangement and by the competition for approval. It is seldom that they are allowed to cooperate in a systematic, friendly manner. Finally, within these "boxes," the school houses and the classrooms, life is self-reflecting, with no relation to anything outside of itself, and so it becomes a fantasy, it becomes unreal. The students' learning is evaluated within the "boxes," and it is never tested against the realities of life. It is a common feeling (particularly on the part of students) that what is learned in school is learned only for the purposes of the school. This is the well-known irrelevance of education.

In the more concrete terms, when we look at a student program, is there any connection between what the students are learning and the exploration of physical space? Are our students capable of becoming astronauts? or even aware of what that would mean? Whatever awareness they have is due to television and not to the schools.

But television itself and the other means of communication (including the art of private conversation), the exploration of new ways of crossing social space, as it were, are almost totally ignored. Television viewing is now a basic skill, but the schools are still trying to catch up with the invention of printing.

It is well-known that personal anxiety is increasing, largely, in my opinion, because of the inability of the educational system to help people understand themselves and their environment. What are schools doing to assist us in the exploration of inner space, of ourselves? Virtually nothing.

With the advances of knowledge, it is clear that we depend more and more upon the ability of men to cooperate in teams—witness space exploration, urban renewal, scientific research, and the new medicine—and yet our schools continue to separate students, to make them compete with each other, and do not help them to learn the cooperative ways of behavior upon which our future rests. The balance between cooperation and competition in our schools needs to be re-adjusted to conform to the realities of modern life. Above all, we should realize that studies must show themselves in behavior, whether we like it or not; our students are generally dissatisfied because their studies, and therefore their actions, are uncoordinated with the real world. This increases their anxiety and makes it very difficult for them to make a constructive contribution to society. The responsibility does not rest primarily with the students; it rests with the educators.

As I said, it is the boundary conditions that are all wrong. It is the division between inside and outside, between insiders and outsiders. We pretend that students learn inside the school, and not outside in the community. The written American language is inside the curriculum; the spoken language is outside. Teachers and administrators are included in the group of educators; parents, employers, businessmen, ministers are excluded. And so on. The boundaries are no longer useful to us. In fact, because they are wrongly drawn they cause us insoluble problems.

It is not possible to improve the high school; it has reached the end of its development. We now need a new kind of educational institution.

The year around Parkway Program sets up new boundaries, and provides a new framework in which the energy of all of us can be used in learning, and not in maintaining an obsolete, inefficient system. There is no school house, there is no separate building; school is not a place but an activity, a process. We are, indeed, a school without walls. Where do the students learn? In the city. Where in the city? Anywhere and everywhere. If students are to learn about television, they cannot do this apart from the studios and locations in which television is produced. So we use television studios and we use radio stations, and we use the museums, social service organizations, and we use the business community. The Philadelphia City government departments assist us—the Police Department, and the District Attorney's office to name only two. Parents help us. A large number of people help us and we are very grateful. Everyone has a stake in education; everyone has a right and a duty to be involved, to participate. The community helps us in a great variety of ways, by providing us with meeting space, with resources, with instructors, even with total programs. And without the community's help we cannot do our job.

The great variety of ways in which the community helps us is a reflection of the tremendous variety of the community itself. The complexity of social life today is immeasurably greater than that of social life in 1900 or even in 1940. Education must respond to this complexity, this heterogeneity; must accept it and put it to educational use. It used to be that the ideal teaching situation was thought to be a teacher (who knew what was to be learned by the student) telling a homogeneous group (as similar as possible in age, background, and presumed ability) what they ought to know, with emphasis on that aspect of knowing which we call remembering. All that has changed. The standards by which these homogeneous groups were formed are no longer useful or relevant; the teacher does not know, cannot know in many cases, what the students should be learning; and you cannot memorize the future.

In the Parkway Program it is true we teach some conventional subjects, but the study groups are mostly small, under 10 students, and the old ways of classroom teaching just do not make any sense. So students and faculty are re-defining what we mean by teaching and learning. Our faculty members teach, but when they do it is not in a classroom; it is in the city, in an office building, in City Hall, in the street, depending on what they are teaching. The city is our campus.

The city is also our curriculum because there is nothing to learn about but the city. If education is not useful in life, it is difficult to know why we would bother with it, so all of our work must in some way help the student become a better, more active citizen. Students are offered a wide variety of courses and they are asked to choose out of close to a hundred offerings those studies that seem interesting and significant to them. We find that they schedule themselves for programs well beyond the normal school hours (and also over weekends) to take courses ranging from Law Enforcement to Modern Dance, from Film Making to Computers, and from Philosophy to Model Clipper Ships. If we do not offer what they want, they know they can ask, and together we try to provide what they want.

Most educational programs treat learning like a journey to some distant destination and students are graded in terms of how far they get along the road. If you go all the way you get an A. The Parkway Program is set up differently. It views the educational problem as being one of finding a starting point for learning. Many students in ordinary schools never get started, but if they ever were to get started, their journeys would far exceed the expectations of their teachers. We have great faith in our students, and they do not disappoint us, even though we have only two grades—pass or fail.

Every student and faculty member belongs to what we call a tutorial group consisting of about 15 students, a faculty member, and a university intern. The group has three functions: first, to act as a support group in which counseling can take place; second, it is the group in which the basic skills of language and mathematics are dealt with; third, it is the unit in which the program and the student's performance are evaluated, and evaluation is seen as part of the educational process and not something separated from it.

Within the four years of the Parkway Program every student always has a choice available to him. Similarly, no student is ever assigned to the program; he always volunteers, and if we have more applicants than places, as seems the usual situation, we publicly draw names from a hat. Every student in the city in Grades 9 through 12 is eligible without regard to his academic or behavioral record. In addition, we allocate equal numbers of places to the eight school districts with the City of Philadelphia, so that our student body, like our faculty, is properly integrated. We also have 19 students from nine suburban systems, mostly on an exchange basis, and the demand for our program among suburban students is getting to be as great as that among city students.

Our students have to learn to be responsible for their own education, to make choices and to face the consequences of those choices. It is difficult, and many people at the beginning thought that it would not work, but it is working and the demand is so great that we shall expand rapidly. It is our intention to set up a series of units of about 130 students, 10 faculty members, and 10 university interns, in various parts of the city, because this unit enables the students to have a human relationship with each other and with the faculty. The educational community should really be small enough so that everyone can know everyone else. Our present unit of 143 students is a little too large. It is also true that above that number the group can no longer control itself. Although our community unit should not exceed 150, there is no reason why we could not set up 100 such units in Philadelphia. In the first place, we do not require large capital expenditure and school buildings, and in the second place, our operating costs are approximately the same as those in an ordinary school. What could be more practical?

II. ADMISSIONS

I do not know of any other educational program that admits its students by lot, by chance, and it is perhaps worth saying a little about why this has been thought the best method for the Parkway Program.

First, we are a public educational program and the best of what we have to offer is freely available to any public school student. We are not the private preserve of any racial, social, economic, or professional group, and, if we were, it would be impossible for us to be an educational program at all simply because the students would then be instruments of somebody else's purposes, that is, of the purposes of that special group. But in education, the student is always the end, never a means.

Second, if we were not willing to admit any and every student, we would have to set what are called admissions standards. In my opinion, admissions standards are a method of discrimination, not, as is often pretended, on the basis of scientifically established criteria, but on the basis of social criteria. To use them would be to destroy the community in which alone education can take place.

Third, the prime object of all study is life—what we learn must always, in some way, be useful to us in life. Now our lives are urban lives—not rural lives, not suburban lives but urban lives. The city is life; it is where the action is. But Philadelphia is a city, is *one* city, only in so far as it belongs to all of us, and it cannot ever belong to all of us if it provides the curriculum for an elite, for some select group.

Fourth, by adopting our method, all students, whether admitted now or not, learn the most fundamental of lessons that we can relate to one another on the basis of love and honesty. It is, perhaps, small comfort for those not now admitted, but such students are better off than if they had been admitted by dishonest, discriminatory, or corrupt means. And if we had been dishonest and admitted them, what would our love now be worth?

You may find these four reasons persuasive, and yet still fear for our success. I thank you for your charity and concern. But if we accept any student, without judging him, if we introduce him to a community of learning, and to a richer life in the world, and preserve our own integrity, how can we fail?

The whole city of Philadelphia is our campus. And Philadelphia is our curriculum. We study the city in the city. Our lives are inseparable from the city, just as the city is essentially its citizens; all of its citizens.

This means that education and politics are inseparable activities and that every political act is an educational act and that every educational act is a political act. We should not want it any other way, for if politics is concerned with power, education is concerned with love, and one without the other is corrupting. Power without love produces tyranny, love without power produces anarchy. Starting from different points of view, educators and politicians alike have to reconcile, to bring into harmony these two forces, and the future of all of us depends on the accomplishment of this difficult task.

In the Parkway Program we have tried in a modest and simple way to do this, and I personally have tried to care for our community without letting people do simply as they like and to be responsible for it without controlling it. Others can report better than I the degree of my success.

It is harder to care for people we seldom see than to love those we meet with daily: it is harder to regard charitably those whose actions affect us if we seldom, if ever, have a chance to discover their purposes. But in the Parkway Program we seek to understand not to judge, to support not to criticize, and we owe our thanks to many people.

First and foremost, we owe a great deal to the City of Philadelphia and I would like to express our appreciation to the highest elected officer of this city, the Honorable James H. Tate. Mayor Tate we thank you and, through you, the whole city. We are also indebted, in more than one sense, to the President of the City Council, the Honorable Paul D'Ortona, who has been deeply interested in the problems of the educational system. The Police Commissioner and the District Attorney have both provided educational programs for us. Mr. Frank L. Rizzo and Mr. Arlen Spector also have our grateful thanks for their help. Several members of the Board of Education have individually helped us with support and advice, but we owe our existence to them as a whole. Under its President, the Honorable Richardson Dilworth, the Board of Education brought us into existence and through the Superintendent of Schools, Dr. Mark Shedd, that existence has flourished into a fuller educational life for all of us, students and faculty alike. If we have experienced a better educational program here in Parkway it is, in the first place, because of their decision and their support. We thank them.

III. ORGANIZATION AND ADMINISTRATION

The Parkway Program is currently organized into the following components: (It should be emphasized that while the structures described here have been found to be viable in many ways, their effectiveness is open to constant evaluation, and they, like the Parkway concept in its entirety, are subject to revision and evolution.)

1. The 143 students are randomly divided into 9 groups of about 16 called *Tutorial Groups*.

2. Each full time faculty member is paired with a university intern, and each pair is assigned, jointly, to a tutorial group.

3. A pair of tutorial groups together constitutes a *Seminar Group*.

4. Each student chooses, within the context of subject distribution requirements, one or more programs offered by the Parkway participating institutions, as well as courses taught by Parkway faculty members.

5. Each student may choose to participate in a *Management Group* responsible for one aspect of the program's day-to-day operation.

6. Each student, then, participates in:

(*a*) A tutorial group with one faculty member, one university intern, and 15 other students.

(*b*) A seminar group, with the other students in his tutorial group, the fifteen students of another tutorial group, and an additional faculty member and university intern.

(*c*) A program of study including at least one course offered by a participating institution and additional courses offered by Parkway faculty members.

(*d*) A management group consisting of other students and faculty who assume responsibility for one aspect of the program's functioning.

7. The function of the tutorial group is twofold:

(*a*) It is the unit within which personal encouragement, support, and counseling are given, and it is the unit in which continuous assessment of the Program as a whole, is carried out.

(*b*) It is the unit responsible for the acquisition of those basic skills in language and mathematics, required by the students in their work in the Parkway participating institutions and by the requirements of life in our society.

Each group will, of course, go about performing its functions in the ways seen by students and staff alike as being most successful. The various groups have experimented with a variety of experiences and activities ranging from formal tutoring sessions in mathematics and English to individual faculty-student conferences to free-for-all discussions, recreational gatherings, and field trips.

8. The function of the Seminar Group is to work from the students' experiences in various Parkway institutions towards a generalized and liberalized view of that experience.

9. The function of Management Group is:

(*a*) to perform the functions and provide the services necessary for the Parkway's successful operation

(*b*) to involve students in a meaningful way in determining the nature of the program

(*c*) to help students develop the skills of management which are the source of power in the community. Management groups have formed around the following problem areas: self-government, public relations, office management, athletics, facilities, fund raising, extracurricular activities, the printing of a Parkway newspaper, and, in conjunction with professors from Temple University, attempting a scientific analysis of the effects of the Parkway Program on its students.

10. The Academic Curriculum consists of:

(*a*) Institutional offerings—programs of study offered by participating Parkway institutions and taught by staff members of those institutions

(*b*) Basic skills offerings—math and language arts courses taught by Parkway faculty which provide both remedial and advanced level work for students who need or desire it

(*c*) Elective offerings—classes in the humanities, physical sciences, and social studies taught by the Parkway faculty.

Each student's schedule depends on the particular courses he is taking, but is usually a variation of the following general schedule:

SAMPLE STUDENT SCHEDULE

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:00 to 11:00	Ed Com (a few FO).	Ed Com (a few FO).	Ed Com (a few FO).	Ed Com (a few FO).	Ed Com, STAFF.	FO, Ed Com.
11:00 to 1:00	Lunch, FO	Lunch, FO	Lunch, FO	Lunch, FO	Lunch, FO	Ed Com, FO.
1:00 to 3:00	Tutorial	Tutorial	MAN or FREE.	Tutorial	Seminar or town meeting.	FREE.
3:00 to 5:00	FO, Ed Com	FO, Ed Com	do	FO, Ed Com	FO, Ed Com	Do.

Ed Com—Educational components (institutional offerings). FO—Faculty offerings (basic skills and electives). MAN—Management group. STAFF—Staff meeting. FREE is for large group activities, field trips, independent study, etc.

11. In addition to the three types of study listed above, each student is encouraged to participate in a program of individual study in an area of his own interest. This may be done in collaboration with one or two other students.

12. Students are encouraged to participate in work programs of the Parkway institutions as an extra non-required component. This can lead to vacation jobs or to career possibilities. In addition, and not of least importance, will be the opportunity of community service in a variety of social agencies.

IV. A PARTIAL LIST OF COOPERATING AGENCIES

Academy of Natural Sciences
Addressograph-Multigraph Corp.
American Civil Liberties Union
American Friends Service Committee
Archdiocese of Philadelphia
Art Alliance
Atlantic Richfield
Catholic Youth Organization
Center City Magazine
City Hall
Commission on Human Relations
Convention and Tourist Bureau

Council for Professional Craftsmen
County Court
County Medical Association
Day Nursery for the Deaf
Delaware Valley Regional Planning Commission
Drama Guild
Fellowship Commission
Fidelity Mutual Life Insurance Company
Film Media Center
Franklin Institute
General Electric
Gratz College
Greater Philadelphia Chamber of Commerce
Greater Philadelphia Movement
Hahnemann Medical College and Hospital
Health and Welfare Council of Greater Philadelphia Metropolitan Area
Industrial Valley Bank Building
Insurance Company of North America
IBM
JCRC
Metropolitan Associates of Philadelphia
Moore College of Art
Municipal Services Building
NAACP
NYU Educational Network
Parochial Schools Administration Building
Peale House
Pearl Buck Foundation
Penn Center
Pennsylvania Academy of Fine Arts
First Pennsylvania Bank
Pennsylvania Railroad: Suburban Station
People for Human Rights
Philadelphia 1976 Bicentennial Corporation
Philadelphia Board of Education
Philadelphia College of Art
Philadelphia Free Library
Philadelphia Museum of Art
Philadelphia Music Academy
Philadelphia National Bank
Philadelphia Zoo
Pocket Playhouse
Police Administration Building
Pomerantz Office Supplies
Print Club
Regional Film Library
Rodin Museum
Smith, Kline and French
Society Hill Playhouse
Temple University
J. Reid Thomson, Architect
United Gas Improvement

University of Mass. School of Education
University of Pennsylvania
Urban Coalition
Urban League
Wanamaker's Department Store
Weinstein Geriatrics Center
YMCA of Philadelphia
YWCA of Philadelphia
YMHA of Philadelphia
YWHA of Philadelphia

The following news media have also helped, generously, and in a variety of ways:

Canadian TV Network
Evening and Sunday Bulletin
KYW
London Sun
Los Angeles Times
Philadelphia Daily News
Philadelphia Inquirer
Philadelphia Tribune
Toronto Daily Star
WCAU
WFIL
WIBG
WPEN
WUHY
WIBF
WKBS

V. Analysis of the Parkway Program

The Philadelphia Board of Education, in cooperation with the cultural, scientific and business institutions along and around the Benjamin Franklin Parkway, has initiated a four-year educational program for students of high school age. The Parkway Program, as it is called, has starting points which differ from those of conventional high school education in at least two basic respects. In the first place, the Parkway Program does not have a schoolhouse, a building of its own—it is a school without walls; in the second place, the institutions and organizations along and near the Parkway constitute a learning laboratory of unlimited resource.

The adoption of these two starting points opens the way for a complete reformulation of what education means for the present day urban student. There is little doubt that such a reformulation has far-reaching consequences for both the theory and practice of education, since it indicates reformation in every aspect of the student's activity. The spatial and temporal boundaries of the educational process have been subjected to a thorough examination and have been radically altered; within these new limits, the social structure of the learning community has grown and the description and allocation of roles have been revised to conform to the Program's purpose as a learning community. In addition, the nature and function of subject-matter have been redefined and brought into a new relationship to life so that the total learning community, the Parkway Program, itself, has assumed a different role and status within the greater community of Philadelphia.

The spatial boundaries of the educational process in the Parkway Program are coterminous with the life space of the student himself. Learning is not something that goes on only in special places called classrooms, or in special buildings called schools; rather, it is a quality of life appropriate to any and every phase of human existence, or, more strictly, it is human life, itself. The problem that the Parkway Program confronts has two aspects; first, how to help the student to live "learningly" within his present life space, and, second, how to expand this life space.

From the time of their application, students view the Parkway Program, itself, as a proper object of study, so that there is a continuing reflection on what is going on, as it is going on. Not only are there opportunities for continuous reflection and evaluation, but also for planning and execution by the total learning community; in short, the students as well as the faculty and cooperating institutions are responsibly involved in conceiving and carrying out the educational program. In this way, the educational program is itself a component in the student's education, instead of being simply a precondition.

In addition, from the beginning, the parents of Parkway Program students have been cooperating in forming current educational programs, within the framework afforded by the Program, in planning with their sons and daughters further educational and career possibilities, and in pursuing their own educational purposes, partly through programs offered by the faculty and participating institutions. It is to be hoped that some sort of parents' association will offer help and support to the Program in a variety of ways, although the interest and involvement of the parents, alone, will be a material factor in the progress of students.

Responsibility for educational planning carries with it the incentive to think more deeply about educational purposes. By sharing responsibility among students, parents and teachers, a continuing dialogue on education has developed which must have a beneficial effect on the people involved. Through this dialogue, students, particularly, have come to reflect on, to understand, and to control more effectively their own lives.

At the same time, the facilities of the institutions along and near the Parkway are available, to a greater or lesser extent, to the students in the Program. They choose their activities from offerings made by such scientific centers as the Franklin Institute, by such humanistic centers as the Museum of Art, by such business centers as the Insurance Company of North America, by such manufacturing centers as Smith, Kline and French, and by such communications centers as KYW and the *Philadelphia Bulletin* and *Inquirer*. By choice and with encouragement and support, the student goes beyond the restrictions of his present life and, by furthering his experience he will further his capacity to have an experience.

If learning is not confined within the spatial limits of schools and classrooms, then it is not confined within the conventional temporal limits either. The concepts of class period, school day, school week, and school year all need serious modification and possible abandonment. The Parkway Program has abandoned them, for the most part, and it provides a year-round, full-time learning opportunity for anyone in the Program. The schedule of each student is determined by his learning requirements and not by the clock hours of administrative and organizational convenience.

By adopting these new spatial and temporal boundaries, determined by the view of education as a mode of life and by the learning needs of a particular student, school has ceased to be a building and has become a process, an activity, in which the student participates, or more properly, which is nothing other than the life of the community of learning. The fundamental teaching problem is now to help the student enter the process.

Since learning is a human activity—and, in a sense, the characteristic human activity—it is intimately bound up with the human group. The problem of how to enter into the learning process, or to be a learner, can be restated in terms of group membership—how to be a member of a learning comunity. It is for this reason that the social structure within the Parkway Program is of utmost importance. What are the characteristics of a community which has as its purpose the learning of its members? To frame the question in this way—and it is the appropriate way—indicates that the community is concerned with the learning of all, and not merely some of its members. This acknowledges frankly the need of everyone for more learning—it is not something appropriate only for people cast in the role of "student"—and it makes easier the possibility of cooperation, of partnership, of a true sharing in a common enterprise. This view is in strong contrast to the conventional view of education in which there are teachers and learners—that is, superiors and inferiors—and in which knowledge is treated as alien and self-subsisting to be imposed on the student from without by the exercise of authority. In the Parkway Program, energies are not tied up maintaining the conventional social system of the school, which is under considerable tension from the conflict arising from declared inequality, and which has little or no relation to learning; students' energies are enlisted on behalf of their own education, individually and in formal and informal groups.

The appropriate model for the Parkway Program is the kind of working together seen in space exploration teams, or in medical teams engaged in transplant surgery. With differentiation of function, there is an intricate pattern of interdependence in such teams dictated by the complexity of the means necessary to achieve the end and by the variations in functional responsibility, generated as the situation changes. The activity of the Parkway Program is not essentially different. The hierarchical ordering of the roles in such teams is determined and re-determined as one stage of operation succeeds another, as crises and emergencies come and go. This has its counterpart in the Parkway Program but, in addition, the people change their roles as the learning needs require it. Members of the learning community are acquiring adaptability and flexibility as they respond to the potentialities of the Program, learning how to play new roles and, by so doing, achieving new satisfactions.

It has already been stated that by using the institutions along the Parkway, students extend their life space and increase their capacity for experience. This is a very real function but it is one which any area—urban or rural—could perform. The unique and specific importance of the Parkway institutions lies in the unparalleled wealth of material and human resources which they bring to a very small area of the city. Within a few short blocks there can be found some of the best museums and collections in the world, and the research work that is conducted along the Parkway is of civic, national, and even international importance. To have easy and continuous access to the fine collections of paintings, sculpture, scientific instruments, and books available along the Parkway would enhance any educational program. Beyond this, however, business, industrial and communications organizations—again of national and international reputation—have expressed interest in providing opportunities for students to study intensively with them, and to pursue work-study programs.

There are two further advantages for Parkway Program students. First, in addition to the material resources of these institutions, there is the possibility of intense and varied contact with the highly-skilled professional personnel who are responsible for their continuing life; to have such people as, in a sense, faculty members, is to provide specialist teachers of the highest possible caliber. Second, as an optional and additional activity, there is the possibility of participating in the work of these institutions, and, particularly, in their research work; this is an opportunity for sharing in exciting, creative, and original work denied even to most college students.

Finally, it must be remembered that the Benjamin Franklin Parkway begins at City Hall and that for many years the organization of Philadelphia's city government has been a model for the nation. Students in the Parkway Program will be able to study, at first hand, the administration of a city which is a recognized leader in urban renewal. It is not necessary to point out that the modern city government of Philadelphia is the outcome of a tradition as old as the Nation, itself, with a wealth of historical resources available, almost on every street corner, even to the most casual student.

STATEMENT OF JOHN W. MACY, JR., PRESIDENT, CORPORATION FOR PUBLIC BROADCASTING, WASHINGTON, D.C.

December 18, 1969

It is a pleasure to be given this opportunity. It is also a challenge!

It is a challenge not only because your investigation into the needs of education in the 1970's is of utmost importance to the nation, but also because some of the few remaining citadels of doubt as to the *persuasiveness* of television seem to be located with some parts of the education community.

Television has been under criticism by almost every other segment of our society. The charge is that it is *too* persuasive, too effective in delivering messages. Political leaders want to appear on it. Corporations spend millions to put their messages before television audiences.

Everybody, it seems, wants to learn how to use this medium to sell products, or ideas; to expand avenues for entertainment or excitment or relaxation. They are all searching for ways to use it, not reasons why it should not be used.

But for some reason or reasons, some segments of the educational community in this country have not entirely agreed. To be more precise, the community as a whole has not yet begun to attempt to make television the forceful effective tool of learning it should be. There are many reasons for this phenomenon. Some of them are compelling. I hope, however, that now the Corporation for Public Broadcasting and the entire public broadcasting community would be allowed to work with educators in finding ways to overcome obstacles. I know that the non-commercial broadcasters I have spoken to in recent months, almost all of whom are presently working in the field of instructional television, certainly are willing to try.

I sumbit that any examination of the needs of education in the decade ahead must include the proper, creative use of television programming, whether this programming arrives in the classroom or the home through the air, through cables, or issues from a "little black box" fastened to the rear of the set. Technology should not be the issue here.

I submit further that proper, effective use of television techniques is going to become more and more essential as the decade progresses, if we are to close the gap between rich schools and poor, between suburban schools and their counterparts in urban slums or rural poverty areas.

At the present time, we have relatively few hard facts about the use of television in schools today. Incredible as it may seem, neither the Office of Education, the Federal Communications Commission, nor the National Education Association can say how many students, as of today, are being served with instructional television in their classrooms. The best estimates are that between 12 and 15 million students in elementary and secondary grades—or between 20 and 25 percent of the potential audience—receive some instruction via television.

We all expect that the report of the Commission on Instructional Technology prepared by a special committee appointed by the Secretary of Health, Education and Welfare under Title III of the Public Broadcasting Act of 1967 will contain additional facts and more accurately describe the task before us. Title III was added to the Act because Congress wanted more detailed information before attempting to draft legislation in this field. The report has been sent to the White House by the Secretary of Health, Education and Welfare and it should be released soon.

Even without many of the hard facts, that will become available with release of the report, I feel we can stipulate two things:

Children will watch television they like; and learning does not have to be dull.

We know, for example, that the average child spends 4,000 hours watching the television before he enters first grade. By the time he graduates from high school, he has spent 15,000 hours watching television and only 12,000 hours in school.

Obviously, children like television!

I am sure I do not have to elaborate on the second point to members of this committee who have been able to watch any segment of "Sesame Street," the Children's Television Workshop series for preschool age children! I know that the appearance before this Subcommittee of Mrs. Joan Ganz Cooney, CTW Executive Director, and the display of some CTW's techniques provided a unique opportunity to learn of this work.

As a matter of fact, the national acclaim of "Sesame Street" helps to illustrate the point I would like to make today:

When joined with thorough research and proven educational goals, creative use of television techniques can help make learning interesting for children.

Consider, for a moment, the achievements of "Sesame Street" in public television terms. A little more than a month ago—before "Sesame Street" went on the air—many critics felt that public or "educational" television could not reach sufficient audiences of preschool children. These critics did have some logic on their side: "Sesame Street" was to be transmitted almost entirely over public stations, many of them broadcasting on the UHF spectrum. In a Harris survey commissioned by CPB, it was revealed that 74 percent of the homes in the nation are reached by a public television signal; 39 percent of the country is reached by a VHF public television outlet and 35 percent by a UHF outlet.

Forty-two percent of the television sets in the country cannot pick up UHF signals. Many youngsters are not used to tuning in on the UHF portion of the dial, even when their sets are equipped to receive the signal.

But despite these handicaps, the word is now received that in its second week (November 17), "Sesame Street" reached about 6 million children in 2 millioin homes, day care centers and nursery schools. This is a greater audience for a new series than anyone dreamed possible. Public broadcasting does not want to get into the rating game, but it is significant that in its first week, "Sesame Street" had one rating of 4, which was better than some popular commercial programs. In other words, it is a smash hit in television terms, even though its basic purpose is to teach, and it was broadcast on public television stations.

The Corporation is extremely pleased to have been able to negotiate special arrangements with AT&T to allow the transmission of this program throughout the United States over the public broadcasting interconnection. It is proud to have been able to contribute $250,000 to its total first-year cost and to support strongly its continuation after this first experimental season.

Is "Sesame Street" an isolated case? Certainly we were fortunate that the Children's Television Workshop concept—a revolutionary concept for many—was embraced by the U.S. Office of Education. We are fortunate, too, that OE, the Ford Foundation, and the Carnegie Corporation and others were willing to fund the project adequately—$8 million for the initial research and development and the first season of production. And perhaps, most important to all, we were fortunate that talented, creative, and dedicated people such as Mrs. Cooney.

Executive Producer David D. Connell, Research Director Dr. Edward L. Palmer, and Assistant Executive Director Robert Davidson were in charge of the effort. It is difficult to conceive of such a project succeeding without this amalgam of creative communicators, research specialists, and educators.

We can be thankful, too, that because of the wisdom of Congress and the support of State and Local governments and community-spirited committees, there were public television stations in 47 of the States and the District of Columbia that were available to bring this program to their viewers, once or twice a day, every weekday. It would be difficult at best for commercial stations to guarantee this kind of on-the-air time to a program designed principally to reach only 12 million viewers—children three, four, and five years old. As of today, some 163 of these stations are broadcasting "Sesame Street."

These stations are a vital national resource. They belong to the public. I urge this committee to assist us in making this resource more effective in stimulating and educating other groups of our young people, as we have now been able to begin to do with preschool children.

Before going into the specifics of our suggestion, let us analyze the potential of television in fulfilling national needs in education, in the classroom, in the home, as well as on the job.

Effectiveness

Wilbur Schramm and Godwin Chu, in their series of studies of televised instruction, have noted that its effectiveness has been shown by more than 100 separate experiments and several hundred comparisons made all over the world, in rich nations and poor, and involving students at every age level, preschool through adult. Schramm and Chu compiled the results of 421 comparisons between instructional television and conventional teaching. Here, in part, are their findings:

	No significant difference	TV more effective	Conventional more effective
Elementary	50	10	4
Secondary	82	24	16
College	152	22	28
Adults	24	7	2

There have been other studies in recent years which indicate that televised instruction is indeed an effective method of improving the quality of education, especially in the more rural areas of the country. Serena Wade's study of the Hagerstown, Maryland, school system in 1967 indicated that rural students who averaged half a grade below the national norm before classroom television was inaugurated began to exceed the norm when television instruction was used. In Grades 3 and 4, this took place after just one year of televised instruction. In the other elementary grades, it took one year longer.

Another interesting point of this study was that after three years of televised instruction, achievement in rural schools in the Hagerstown area—where students had originally averaged one-fourth to one-half grade below their in-town counterparts—began to be comparable to the urban schools.

It must be noted here that the progress that has been made in instructional television has been attributable to dedicated people, working with anemic resources on university campuses, in the school systems themselves, at public television stations, at National Instructional Television, Bloomington, Indiana, and Great Plains National Instructional Television Library, Lincoln, Nebraska.

Their talent for survival and growth under present circumstances is truly amazing. Without increased support in funding, in trained and creative manpower, it will be particularly difficult for them to meet the challenges of the next decade.

Not only must they program for larger and larger numbers of students, but they must help overcome the gap in education between rich and poor schools. They must compete with the sights and sounds that fill a young person's life outside of school and be prepared to make the best possible use of new technology.

When we speak of "instructional television" today, we really mean signals delivered over the air into the classroom, the same way television signals reach your home. But the age of cable television is already upon us. CATV is in use in thousands of communities and is growing rapidly. With cable comes the opportunity of delivering many more programs simultaneously throughout the school. Are these dividend channels to be wasted as far as instructional television is concerned, or will the programs—lessons, if you will—be the best we can provide?

Other technological advances—ITFS (Instructional Television Fixed Service) and the new Electronic Video Recording devices, for example, make it possible right now to deliver a variety of programs to the classroom audiences when the teacher wants them. Local instructional television producers as well as national production centers like NITC and Great Plains must be given the resources to begin planning so that meaningful and effective programming is available for use over these new technological devices.

Problems

The studies mentioned above concerned themselves with the effectiveness of "televised instruction" as it is now generally used today. Because of a lack of resources and the high cost of venturing into new techniques of programming, most of the instructional or classroom television now being used tends to consist of little more than turning a camera on an instructor. No matter how brilliant or capable the television instructor, therefore, he cannot do more for the students who viewed him than if he were in their classroom in person. Many feel he does less because the warmth of human contact is missing. Because of a lack of resources, then, the biggest advantage in instructional television today is that it allows a talented instructor to reach beyond his immediate classroom to hundreds of additional students; it allows the schools that cannot afford "specialty" instructors in art and music and many of the sciences to make these courses available to their students. These are important, of course, but they are not enough to meet the demands of the seventies.

One of the problems blocking the full use of television as an educational device, then, is a lack of funds for production and creative use of the medium.

There are others. One of the most basic is the fact that there are some 20,440 independent school districts, each with its own unique requirements and needs. It is particularly difficult to devise a high-budget program of instruction when a comparative handful of school districts would use it. The remainder might feel it did not meet their own requirements. Not only would this be counter-productive, it may not be wise in the first instance since Local control of education is an elementary part of American life, and in the overwhelming number of cases has served us well.

In his recent paper, "Educational Technology—the White Elephant," Andrew Molnar of the Office of Education's Bureau of Research pointed up the dilemma when he wrote: "Education strongly believes in local autonomy and the right of the school and the teacher to prepare and present educational materials to meet the needs of the students. On the other hand modern technology tends to be economical only when used on a regional or national basis."

To quote from Mr. Molnar once more: "Educational technology probably has the greatest potential in areas such as the ghetto school, which characteristically has large student-to-teacher ratios; in geographically dispersed or isolated populations, such as those in rural areas or on Indian reservations; and among mobile groups such as migrant workers."

In other words, the school systems that have the most pointed lack of resources are the ones that could make the best possible use of educational technology, including instructional television.

These problems—a lack of funds for operations and for development of new techniques, the individual needs of thousands of separate school systems, and the need for entirely new approaches in creative use of the television medium—are formidable. They are formidable, but they must be overcome if we are to fulfill the promises under the Elementary and Secondary Education Act of an adequate education within the reach of all our children.

What is needed is a dramatic example of how the techniques of television—not merely a television camera trained on one instructor—can help the teacher in the classroom reach the students with lessons of importance.

The British concept of an "Open University,"—a university largely based on the use of the most advanced techniques of television that the BBC can devise—has intrigued the entire country. The Japanese Network, NHK, through its use of correspondence school techniques to supplement broadcasts, has revolutionized adult education in that country.

And we have "Sesame Street"! The final tally on the ability of this series to teach preschool children is not yet in. But certainly the pre-broadcast research and testing give every indication that the work of CTW will have as high a rating in teaching as it does in entertainment.

Let me make it very clear here that the Corporation for Public Broadcasting does not want to intrude into the day-to-day operation of instructional television. This is outside our mandate under the Public Broadcasting Act of 1967 and certainly outside our resources.

What I would like to propose today is that CPB act as a catalytic agent in helping to overcome the problems now seeming to block progress toward the full use of the medium of television in teaching.

Specifically, I would call the committee's attention to the experience of the Children's Television Workshop. I would like to suggest that a similar experiment—adequately funded—should be authorized in another field of instruction. I would like to urge that such a production should follow the trail already blazed by CTW: thorough research, thorough coordination at every step between television communicator and creative personnel and educators, and thorough follow-through audience evaluation and testing.

If we provide an opportunity for television communicators and educators to approach an education problem together, I am certain that the proper techniques would be found to match the medium and the message. These techniques might include animation, on-location film, and dramatizations to capture and hold the attention of the student and help him to retain knowledge, much as "Sesame Street" now does for the preschool child using such techniques as commercial jingles, etc. On the other hand, such a joint effort may lead to completely new techniques, new formats that could be tested and thoroughly researched.

The subject matter for this project could be chosen by the Office of Education or the Department of Labor or any of the groups representing local school officials. The aim would be to pick a subject of national concern, a subject of vital interest to a substantial number of Americans.

An example of the type of subject that might be selected would be remedial reading or high school equivalency training for returning veterans. Education Commissioner James E. Allen, in announcing the President's "Right to Read" program, said that one out of every four Americans has a reading deficiency and that one-half of the young adults between the ages of 16 and 21 are functional illiterates. That, I submit, would be a subject of national concern!

Because of the great difficulties inherent in the local autonomy of our elementary and secondary education systems, it might be preferable to begin with some project in adult or "continuing education."

Public broadcasting has had some notable experience in this kind of assignment regarding on-the-job training for adults. One of the most highly regarded of these projects was underwritten by the Department of Justice and produced by station WGBH, Boston, to train policemen in the New England area. Law enforcement officials were so pleased with the results that this series has been used by about 25 stations and requests are still being received. The reason—the production used a combination of instructor-to-student lectures and dramatized case studies, all supplemented by especially prepared printed material.

I can speak personally about another project that was financed by the U.S. Civil Service Commission when I was chairman. The series, called "From Nine to Five," was designed to teach government secretaries proper office procedures and was broadcast over station WETA, Washington. It is now being used by other stations in cooperation with nongovernment employers.

Several months ago, the Corporation commissioned the National Instructional Television Center to undertake a study of continuing education programs now being telecast by public broadcasting stations. Suffice it to say the report indicated that a large number of these productions—for a variety of reasons, most of which are noted above—received very low grades as far as television is concerned.

If such a series as I proposed today had one-tenth the impact on the nation as "Sesame Street," it could convince educators, school board members, and the Congress that television, properly used, can be the most effective tool for mass education yet devised.

It is my feeling that if such an experiment were a success, we would find ways to use this medium creatively, at the lowest possible cost, without interfering with local control of curriculum. For example: why couldn't educators and television communicators combine in the future to produce a wide range of creative, self-sustaining segments or film clips for the use, at low cost, of local school districts in their own telecasts? Then, as now, the local television teacher and curriculum supervisor would determine the content of the course. The difference would be the availability of a wide range of first-rate film clips or animations to illustrate what local authorities want illustrated, to help interest and intrigue the student.

The Corporation feels that such a project should be financed by a consortium of interests including the Federal Office of Education, other Federal agencies, foundations, and the Corporation, itself.

To begin working toward this end, I intend to convene early in 1970 a group of television communicators and educators to help set the general direction of such a project and to prepare a specific proposal. I would hope that this subcommittee would be interested in the report of that session and would consider then whether any additional legislation would be necessary.

One of the purposes of the Corporation as defined by Congress is the expansion and strengthening of public broadcasting throughout the country. Since such a large portion of the program day of each of the public television stations is devoted to in-school service, this would be reason enough to become involved in any project designed to assist these stations to become even more effective in their own communities.

The primary reason for my appearance here today, however, is the importance of the subject of the hearings, and my firm conviction that creative use of television can be of great assistance in meeting the needs of education in the decade ahead.

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